INSTALLATION GUIDELINES

SIDING, SIDING.X AND PERFORATED SIDING

WWW.PREFA.COM

COVER PHOTO

Product: Siding.X
Colour: P.10 anthracite
Location: Goldach (Switzerland)
Installed by: CFI Bauabdichtungen GmbH
Architectural design: Raumwerk Amriswil
Photo: PREFA | Croce & Wir

LEGAL NOTICE

INFORMATION ON THE MATERIAL AND COLOUR GUARANTEE CAN BE FOUND AT UK.PREFA.COM/GUARANTEE.

SUBJECT TO TECHNICAL MODIFICATIONS AND PRINTING ERRORS. COLOURS MAY VARY DUE TO PRINTING.
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INTRODUCTION

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This installation manual contains a set of guidelines for preparing and installing siding, siding.X and perforated siding and is aimed solely at commercial users such as craftsmen, architects or installers. The included sketches provide assistance and information for the usual usage. We would like to point out that each construction project must be considered individually and checked for its specific requirements. In particular, the circumstances of individual cases in terms of legal or factual requirements must be taken into account: for example, issues related to the approvability of the project or fire safety regulations to be observed or the checking of external influences that may affect the property (e.g. in exposed locations with strong winds).

Neither this installation manual nor a statement from PREFA should be used to replace or modify the advice or design of an architect/designer responsible for a specific construction project or of the company implementing it: Only the service providers commissioned to supervise the construction project are in a position to decide how PREFA products are to be installed and used, while taking the specific local conditions of the individual case into account.

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NOTE

If you have any questions or for support, please contact PREFA's Product Technology department.

On our website WWW.PREFA.COM, you can find all the information on our products, as well as a detailed description of our comprehensive range of services for certified specialists.

If you are interested in our installation videos or would like to sign up for the PREFA Academy, please ask your PREFA Advisor for a username and password to access our Login Area.

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PROCESSING AND INSTALLATION

GENERAL INFORMATION

This installation manual is suitable only for persons who have experience working with aluminium and related processing tools. The manual describes a general, standard installation, which must then be adapted to local conditions.

- Order-related materials may not be returned or exchanged.
- Please handle all packages with care when transporting (see Storage and Transport).
- All profile lengths must be checked before installation so that you can adjust for potential tolerances before installation.
- Structural requirements must be taken into account.
- Secure sheet metal parts to the scaffolding to prevent them falling off or being blown away during high winds.
- Siding & siding.X and perforated siding must be installed on a substructure either made of timber or metal.
- Check the stability, accuracy and suitability (material compatibility) of the substructure before you begin the installation.
- Any unevenness in the substructure must always be smoothed out before installation.
- You must ensure that the joints are able to change in length when exposed to differences in temperature without being subject to stress.
- The siding, siding.X and perforated siding must be attached to the supporting structure using the fixing material recommended by the manufacturer.

BUILDING PHYSICS

1 THE RAINSCREEN

The rainscreen cladding system combines functional, economical and aesthetic properties. It provides protection against noise, cold and heat, and prevents the load-bearing structure from being affected by atmospheric conditions. The construction of the rainscreen is characterised by a clear, functional separation of the individual component layers. Back-ventilated rainscreen cladding is primarily made up of multiple components that have been structurally coordinated. Moisture is diverted via the ventilation gap, which keeps the insulation and brickwork dry.

Depending on the structural-physical requirements, rainscreens can be installed on insulated or non-insulated walls.

The substructure should be planned in such a way that takes into account the load-bearing base, the static requirements, the building physics and the cladding, as determined by the structural stability requirements.

2 THE BENEFITS OF RAINSCREEN CLADDING

- Variable insulation thickness
- Adapt building materials easily (ideal for renovations and older buildings)
- Can be installed on any subsurface thanks to a variety of anchoring elements
- Long-lasting and durable
- Ideal building-physics due to a diffusion-permeable buildup
- Ideal thermal protection thanks to variable insulation thicknesses and k-values (thermal conductivity)
- Very good insulation in summer
- Resistant to driving rain
- Sustainable thanks to the separation of different components by type

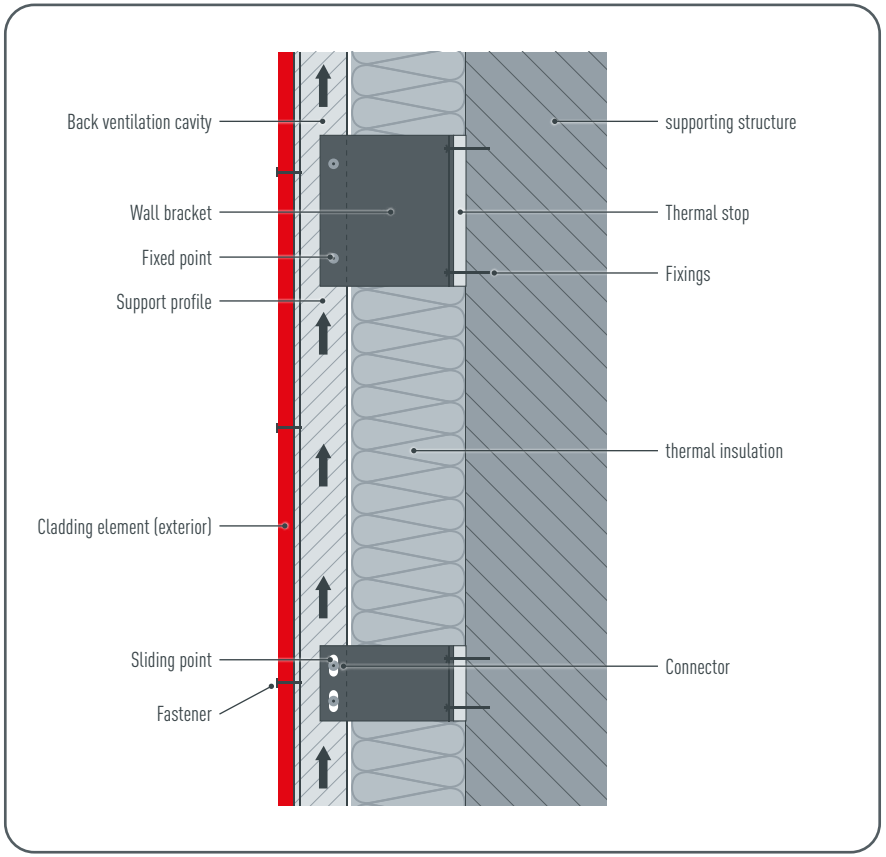


Figure 1 · Buildup of the rainscreen

3 REAR VENTILATION CROSS-SECTION

The rear ventilation cavity must comply with the national requirements applicable to the material selected for the substructure. The support profiles must be aligned with the profile installation in order to guarantee unobstructed air circulation on the ventilation level. Depending on the direction in which the profiles are installed, the substructure may be constructed as a 1-layer or 2-layer structure.

NOTE

When installing sidings vertically, the cross-section of the panel along the siding, siding.X and perforated siding can be considered as a ventilation gap.

Perforated sidings are considered open façade cladding. PREFA recommends using a breathable membrane and a supporting sub-structure(rail and bracket system) made of metal.

CONTACT WITH OTHER MATERIALS AND BUILDING COMPONENTS

Ensure that the siding, siding.X and perforated siding do not come into direct contact with heavy metals (e.g. copper or iron) as this will increase the risk of corrosion. If you wish to use different materials in combination, these must be coated or separated from the aluminium profiles by non-conductive spacers (e.g. plastic washers). Materials must always be separated correctly when being used outdoors.

Siding, siding.X and perforated siding should be protected against potential harmful effects posed by other building materials (e.g. concrete) or environmental conditions (corrosive environments such as gritting salt).

Material pairing	Country atmosphere	City/Industry atmosphere	Lake/near the sea
Zinc	+	+	+
Stainless steel	+	+	+
Lead	+	+	-
Unprotected steel	-	-	-
Copper	-	-	-
Dry concrete	+	+	-
Concrete not set	-	-	-

COMPLEMENTARY COILS

For the fabrication of flashings, such as window sills, jamb and head flashings, etc., for siding, siding.X and perforated siding, only use PREFA complementary coils. This is the only way to ensure colour consistency in the long term. When processing the complementary coils, observe the smallest tolerable bending radius depending on the material thickness.

Bending radius: ri ≥ 2.5×d	
Plate thickness d	Inner bending radius: ri
0.7 mm	1.75 mm
1.0 mm	2.50 mm
1.2 mm	3.00 mm
1.5 mm	3.75 mm

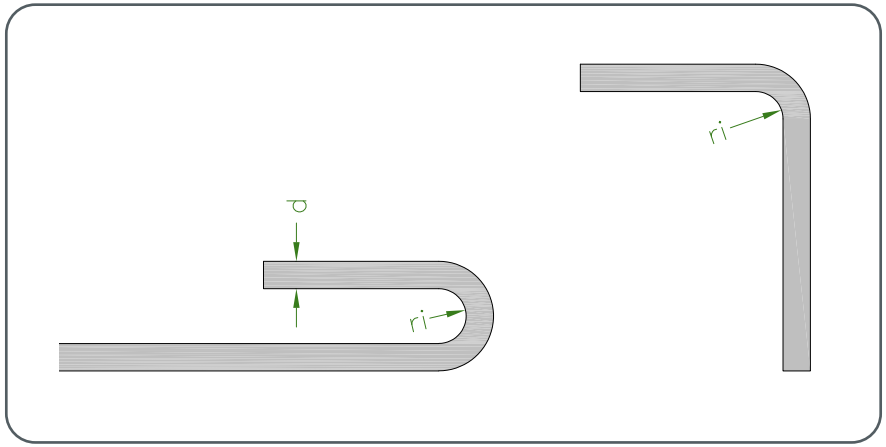


Figure 2 · Supplementary material bending radius

SUBSTRUCTURE AND STATIC

The substructure forms the static connection between the structure and the façade cladding. Preferred materials used for the substructure are metal and timber, or a combination of the two. The materials used for the substructure are metal and timber, or a combination of both.

The structural-physical requirements must be taken into account. Fixings method and material is dependent on the material of the substructure, expected loads and fire safety requirements. The function and dimensions of the substructure should be verified on both new-builds and renovations.

Generally speaking, the structural stability analysis covers the substructure, including anchors and connectors, as well as the cladding and its fasteners.

A verified span table is available for conducting a structural analysis of the siding, siding.X and perforated siding.

Insofar as valid standards, permits, local building codes or other technical policies in the static requirements do not correspond to smaller spacings, PREFA recommends choosing a substructure spacing (X) of between 500 and 800 mm.

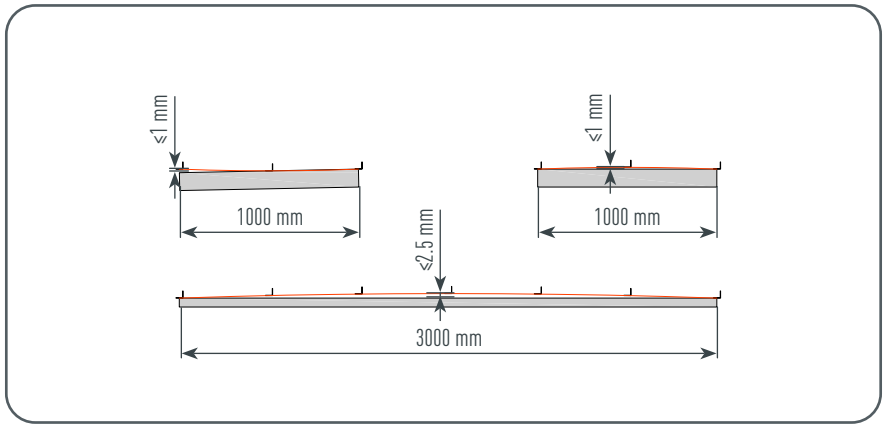


Figure 3 · Inside micrometer for UK tolerances

NOTE

Tolerancen for the supporting sub-structure is limited to an inside micrometer of 2.5 mm for 3000 mm measuring distance or 1 mm for 1000 mm

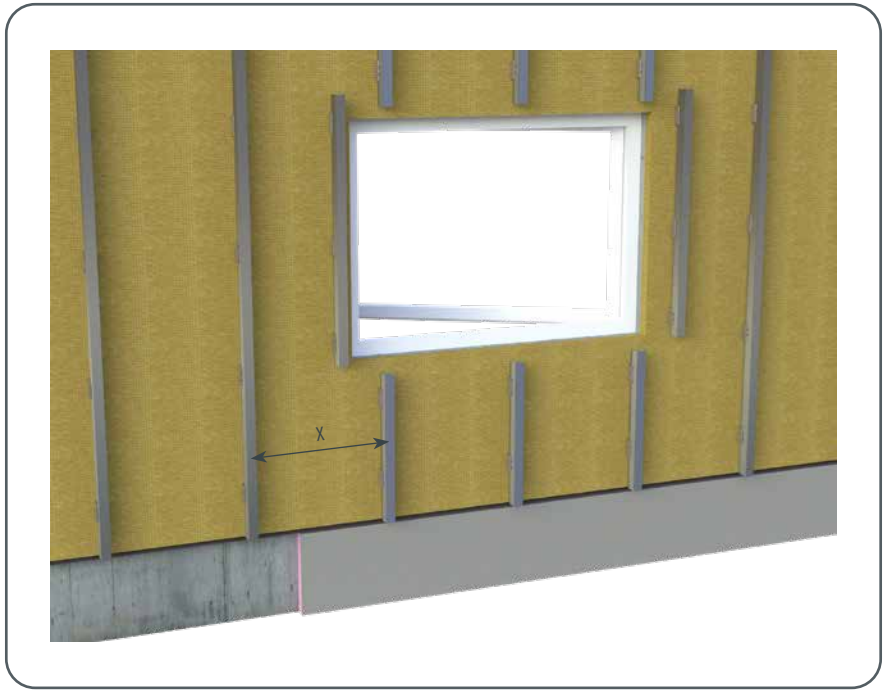


Figure 4 · Substructure spacing

NOTE

Please note that even if installation has been executed according to PREFA instructions and quality requirements, canning (oil canning) might occur due to a temperature change based on the nature of the metal. Color, gloss level and light incidence could intensify this effect.

Observe the recommended max. overhang for siding, siding.X and perforated siding as specified in the static requirements for unsupported corners/edges of max. one quarter of the substructure spacing.

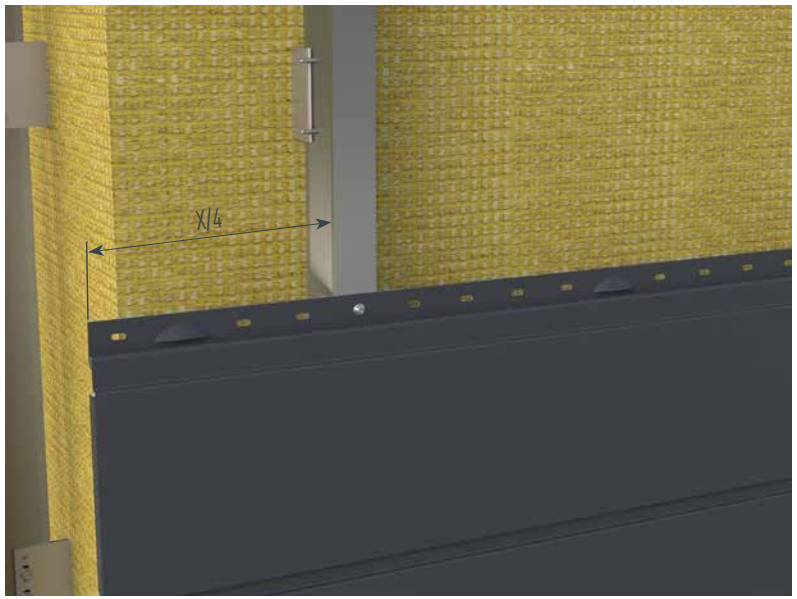


Figure 5 · Max. overhang

STORAGE – TRANSPORT – HANDLING

1 STORAGE AND TRANSPORT

- Suitable forklifts or construction cranes should be used for loading and unloading (with a lifting strap where necessary).
- The packaging must be protected against mechanical damage and against the harmful influences of moisture and poor weather conditions.
- Siding, siding.X and perforated siding must be stored under dry conditions.
- If you are storing the siding, siding.X and perforated siding outside, please ensure that they are covered and sufficiently ventilated.
- In order to avoid warping, the siding, siding.X and perforated siding should be supported at several points along the entire length (e.g. using wooden slats) so that they are lying flat.
- Do not place heavy objects on the siding, siding.X or perforated siding.

2 HANDLING

- Immediately after receiving your delivery: Check the pallets for visible damage.
- When unpacking the pallets: Check the siding, siding.X and perforated siding for damage.
- The siding & siding.X must be packed and unpacked in a clean area.
- Lift the siding, siding.X and perforated siding and do not pull or push them over edges in order to avoid damaging them.
- Depending on the colour, siding, siding.X and perforated siding are delivered with protective film. We would like to draw your attention to the fact that the protective film must be removed before installation, but after 4 weeks at the latest in the case of storage.

SURFACES AND COLOUR RANGE

Siding, siding.X and perforated siding are manufactured using a high-quality coil coating.

In order to avoid colour differences in the long term, batches should not be mixed within the same project.

NOTE

Existing colours are not suitable for subsequent re-coating.

Painting over scratches is not recommended, since a subsequently applied paint can act differently in the long term, with regards to weathering, aging and UV-exposure, than coil coating (color differences over the long term cannot be excluded). Scratches and tool marks do not require repairing from a technical point of view, since aluminium does not rust and forms a natural oxide coating, which protects it from envrionmental influences.

Small scratches and tool marks are possible during installation and do not impair the function and durability.

CLEANING

The frequency of so-called regular cleaning and choice of a suitable cleaning agent depends on the location of the building and the degree of soiling. If aluminium surfaces are exposed to increased levels of moisture and aggressive urban or industrial atmospheres, experience shows that cleaning must be performed more often. Façades should be cleaned at least once a year. Cleaning must be performed in stages from top to bottom.

The following rules should be observed during cleaning:

- Clean the siding, siding.X and perforated siding by hand. Use a soft sponge or specialised machine (industrial cleaner, foam canon etc.). Do not use high-pressure cleaners and avoid hard scrubbing with the sponge.
- After cleaning, rinse the surface as delicately as possible using clean, descaled water systematically and carefully from top to bottom. Otherwise, residue salts, acids or alkalis may lead to corrosion.
- Otherwise, residue salts, acids or alkalis may lead to corrosion.
- For organically coated aluminium, only use neutral cleaning agents (e.g. car shampoo).
- Do not use products which dissolve or attack the paint coating, e.g.:
  - heavily alkaline products such as potash lye or caustic soda;
  - acidic products;
  - acidic products;
  - abrasive products;

Wipe away excess cleaning water with a sponge or shammy to avoid leaving behind mineral deposits from the water during drying.

To avoid blemishes and soiling caused by gritting salt, we recommend cleaning the façade as soon as possible. Remember to also clean the floor of spray water thoroughly afterwards.

Follow the cleaning and safety instructions from the cleaning agent manufacturer and test on an inconspicuous section of the item to be cleaned beforehand where necessary.

Cleaning should not be performed under direct sunlight and surfaces heated by sunlight should not be cleaned either. Surfaces that dry too quickly can lead to the build-up of blemishes.

Impurities that may occur during installation (e.g. sweat, sun lotion, etc.) must be removed immediately.

AREAS OF APPLICATION

Siding, siding.X and perforated siding are suitable for the following applications:

- External cladding for rainscreens
- Base trim
- Door and gate filling
- Garden fences
- Decorative interior wall cladding
- Ceiling soffit

ADVANTAGES

- Long-lasting
- Rust-free
- Lightweight
- Highly stable shape
- Easy to process
- Concealed fastening
- Storm-proof
- Accessory profiles in matching colours

INSTALLATION EXAMPLES

Siding, siding.X and perforated siding can be installed with a regular offset but also in a random layout.

The following installation examples are frequently executed:

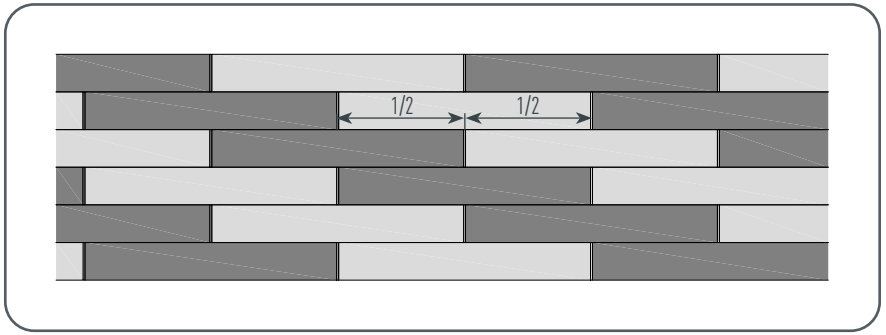


Figure 6 · Offset 1/2

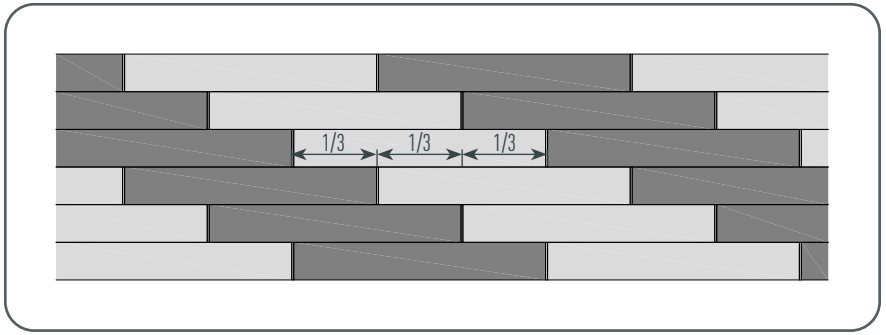


Figure 7 · Offset 1/3

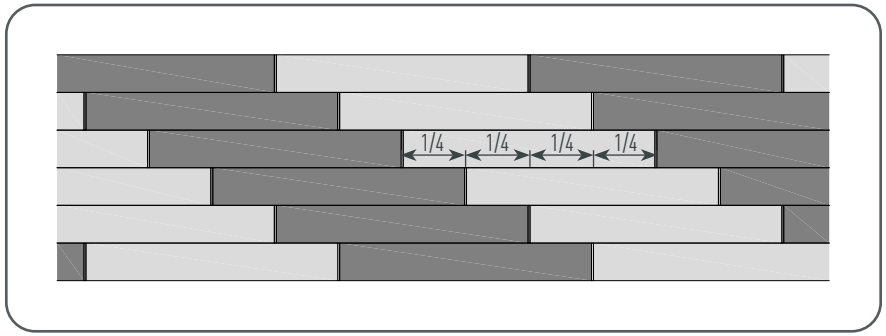


Figure 8 · Offset 1/4

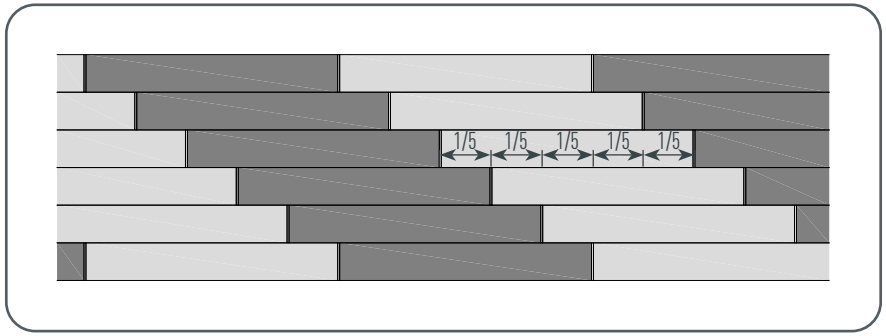


Figure 9 · Offset 1/5

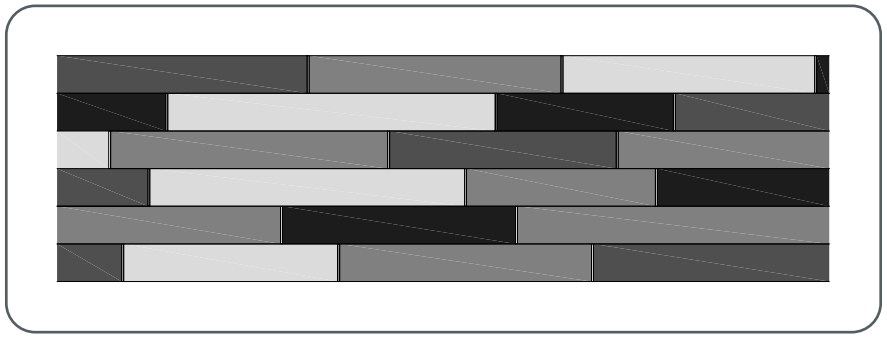


Figure 10 · Individual offset

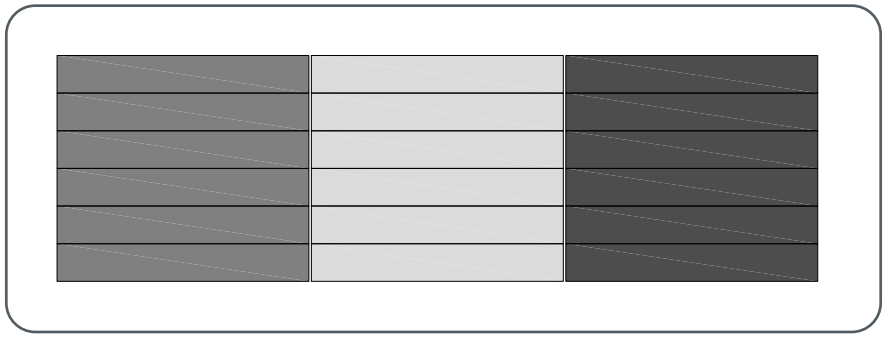


Figure 11 · Straight offset

To help, you can find the siding.X installation schematic at www.prefa.com, digitally downloadable as a PDF file and a DWG file.

PRODUCT INFORMATION

Siding, siding.X and perforated siding are available in variable lengths and are fabricated to required dimensions according to the provided installation plan. The length tolerance is ±2 mm.

SIDING WITH A PROFILE DEPTH OF 22 MM

- 500–2500 mm for all widths (with PREFA joint)
- 500–6200 mm for all widths (without PREFA joint)

SIDING WITH A PROFILE DEPTH OF 32 MM

- 700–2500 mm for all widthsif PREFA joint is used
- 700–3500 mm for all widths without using PREFA joint

NOTE

Installation of sidings at various depths (22 mm and 32 mm) at the same elevation is not feasible due to a differing profile geometry.

Siding, siding.X and perforated siding are produced with a stop end on both sides as standard.

The factory stop end for siding, siding.X and perforated siding is:

- 11 mm for a profile depth of 22 mm
- 20 mm for a profile depth of 32 mm

Figure 12 · Stop end

Siding, siding.X and perforated siding can be installed horizontally, vertically or diagonally.

The following must be taken into account during installation:

- Horizontally: Installation always from bottom to top
- Vertically: Installation from left to right or right to left
- Diagonally: from bottom left to top right or from bottom right to top left

NOTE

The installation of siding, siding.X and perforated siding from top to bottom is not recommended by PREFA, since the installation direction is against the flow of water.

SIDING, SIDING.X AND PERFORATED SIDING (PROFILE DEPTH 22 mm)

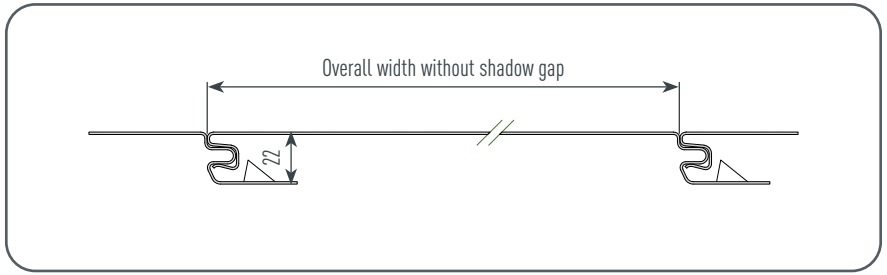


Figure 13 · Without shadow gap

NOTE

Production of perforated siding with a shadow gap is not possible.

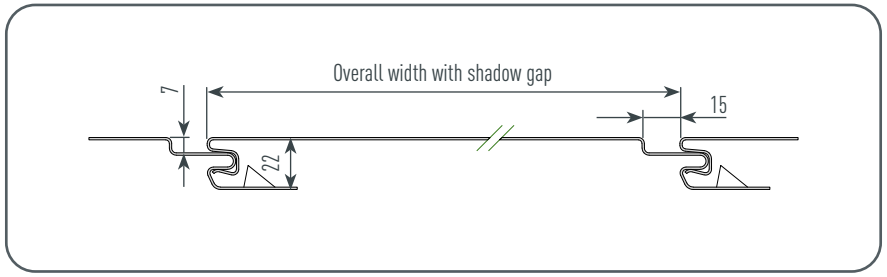


Figure 14 · With shadow gap

1 STANDARD FORMATS FOR SIDING (PROFILE DEPTH 22 mm)

- 138 × 0.7 mm
- 200 × 1.0 mm
- 300 × 1.2 mm
- 400 × 1.2 mm

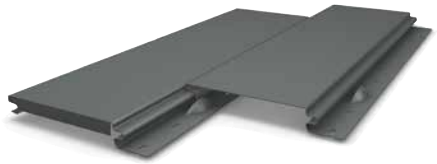


Figure 15 · Siding

2 STANDARD FORMATS FOR SIDING.X (PROFILE DEPTH 22 mm)

- 138 × 1.0 mm
- 200 × 1.0 mm
- 300 × 1.0 mm
- 400 × 1.0 mm

Figure 16 · Siding.X

3 STANDARD FORMATS FOR PERFORATED SIDING (PROFILE DEPTH 22 mm)

- 138 × 1.0 mm
- 200 × 1.0 mm
- 300 × 1.2 mm
- 400 × 1.2 mm

Figure 17 · Perforated sidings

SIDING (PROFILE DEPTH 32 mm)

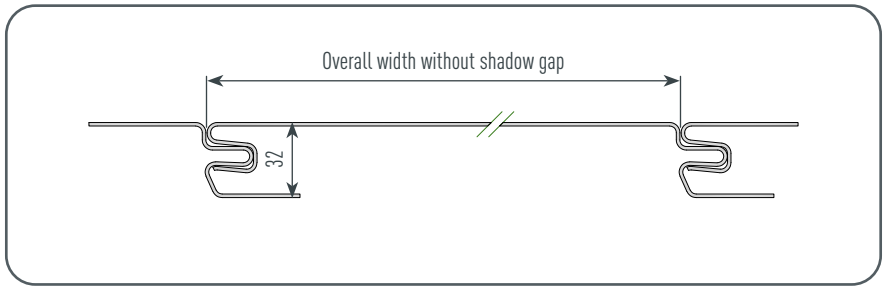


Figure 18 · Without shadow gap

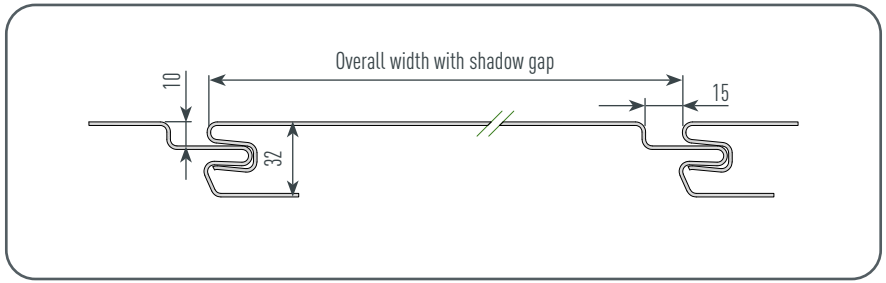


Figure 19 · With shadow gap

1 STANDARD FORMATS FOR SIDING (PROFILE DEPTH 32 mm)

- 500 × 1.5 mm
- 600 × 1.5 mm

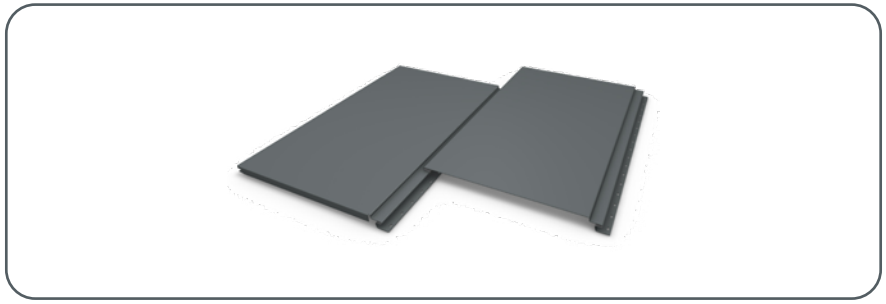


Figure 20 · Siding

MATERIAL

PREFA siding, siding.X and perforated siding are manufactured from aluminium alloys using high-quality coil coating in accordance with EN 485. Depending on panel width, the material thickness can be from 0.7 to 1.5 mm.

FIRE PERFORMANCE

The fire performance of siding, siding.X and perforated siding is classified under EN 13501-1 according to the colour coating: **A1 – non-combustible and A2 – non-combustible.**

NOTE

Please read the connection details in case of special fire safety regulations. Measures regarding the choice of materials and installation must be taken into consideration. If you have any questions, please do not hesitate to contact us.

DIMENSIONAL TOLERANCES

Visible width: 138, 200, 300 and 400 mm

- Overall width = ± 1 mm to ± 1.5 mm (depending on the increasing overall width)
- Profile depth = ± 1 mm
- Camber: ± 0.005 mm×overall width

Visible width: 500 and 600 mm

- Overall width = ± 2 mm
- Profile depth = ± 1 mm
- Camber: ± 0.005 mm×overall width

OVERVIEW OF ACCESSORY PROFILES

Ensure that the accessory profiles have been agreed and are consistent with the differing profile depths of 22 mm and 32 mm.

1 ACCESSORY PROFILES (PROFILE DEPTH 22 mm)

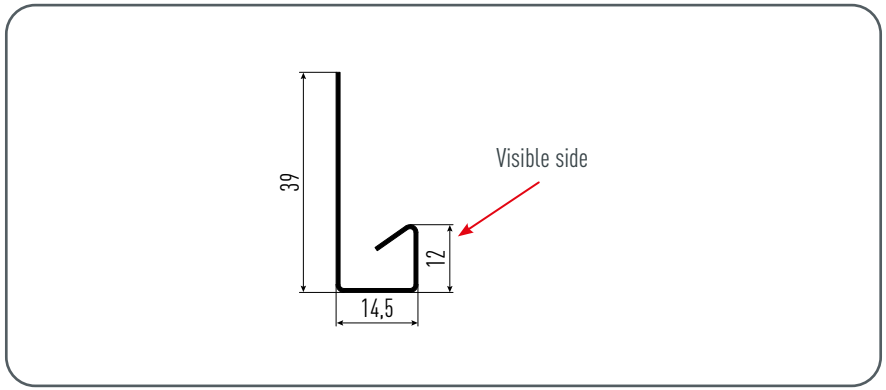


Figure 21 · Starter profile

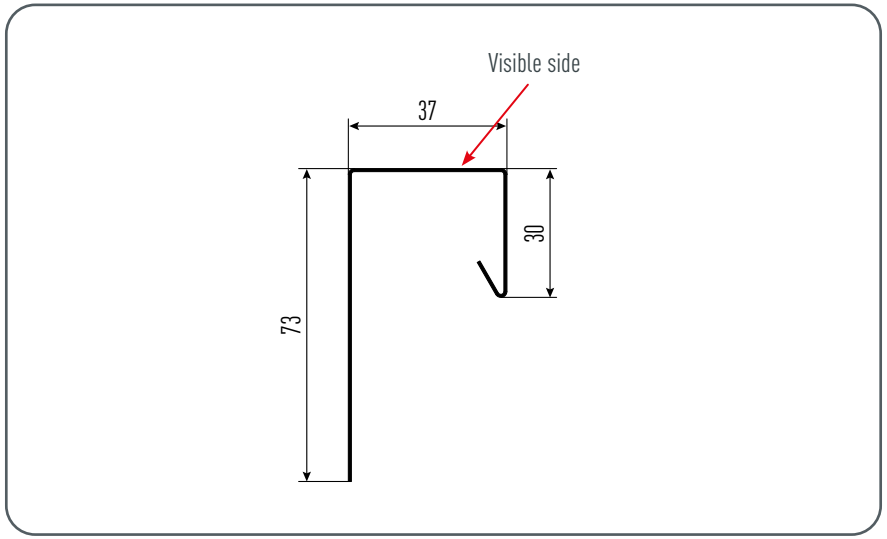


Figure 22 · Canted channel profile

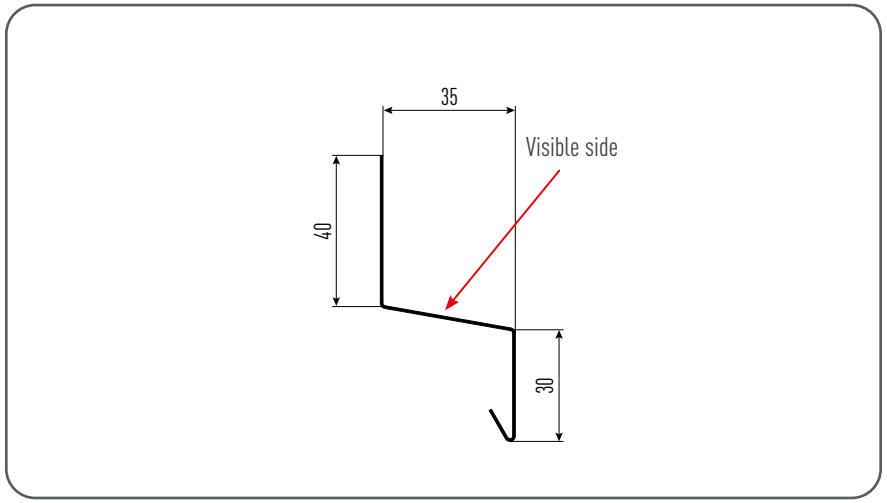


Figure 23 · Drip

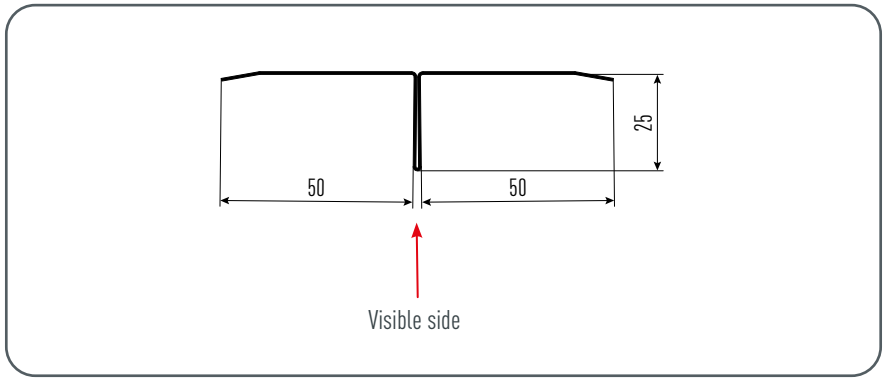


Figure 24 · Joint connection

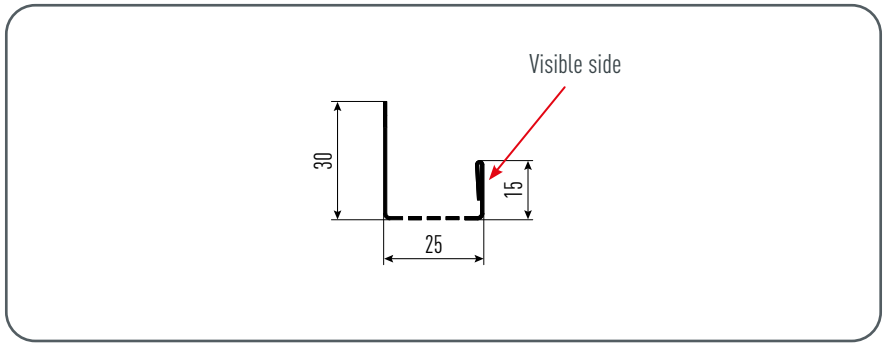


Figure 25 · Perforated starter profile

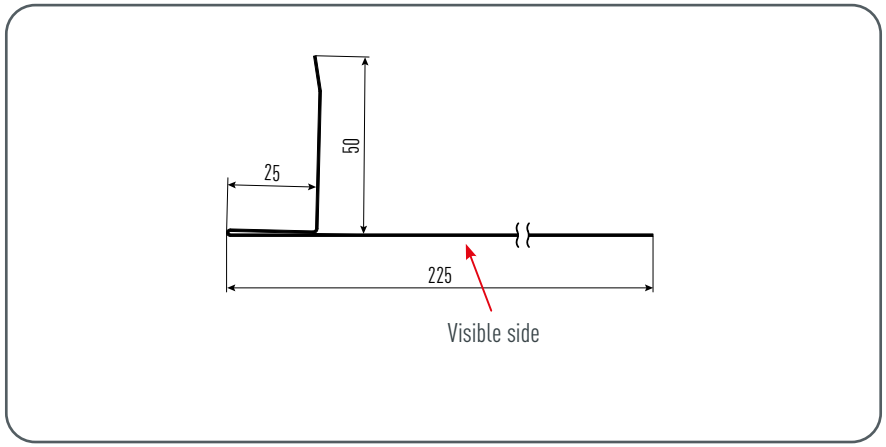


Figure 26 · Jamb flashing

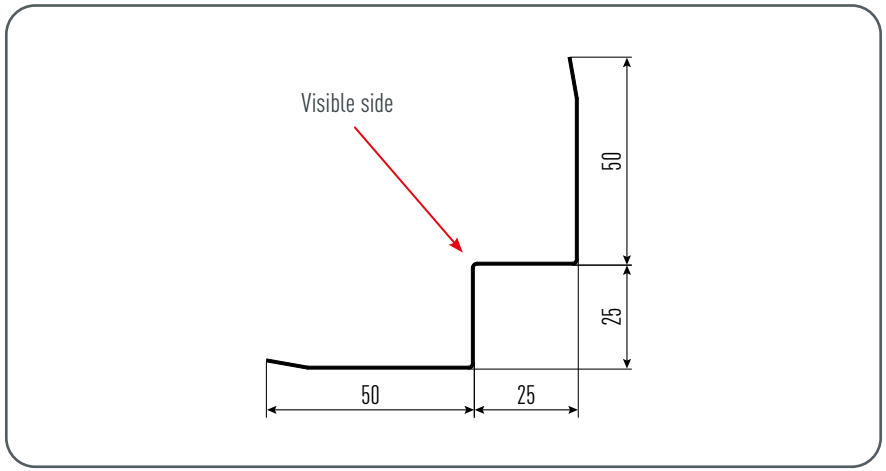


Figure 27 · Internal corner (one-piece)

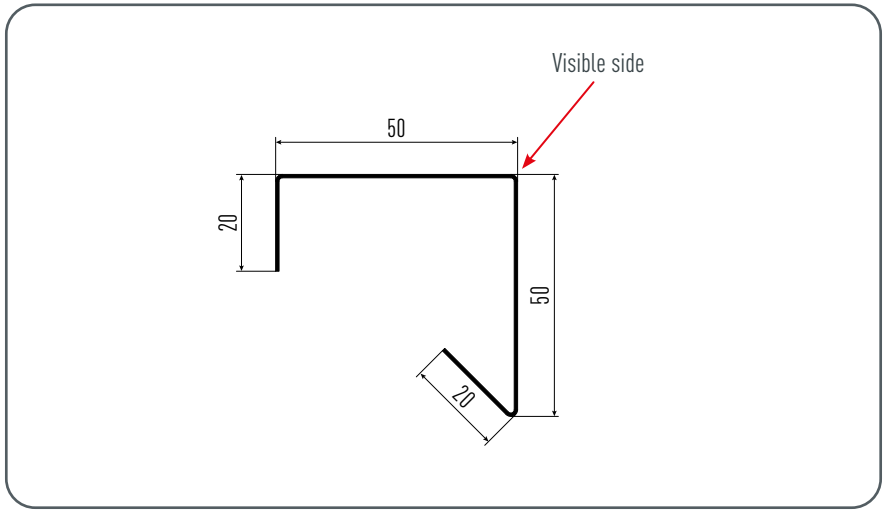


Figure 28 · External corner (in several parts)

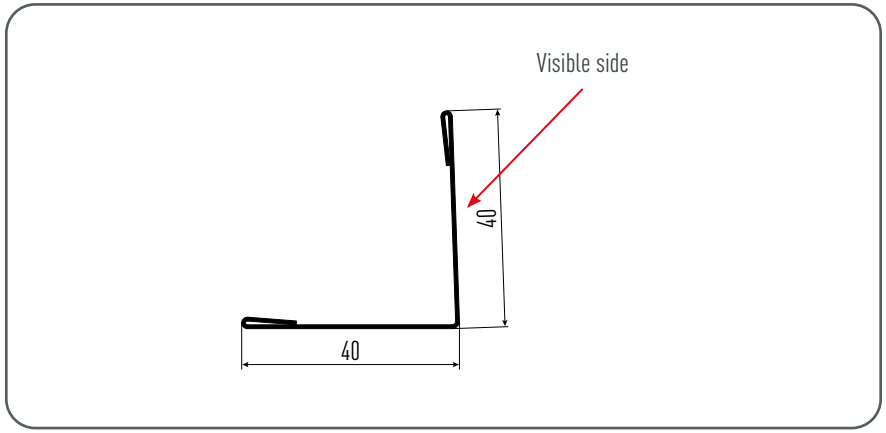


Figure 29 · External corner bracket

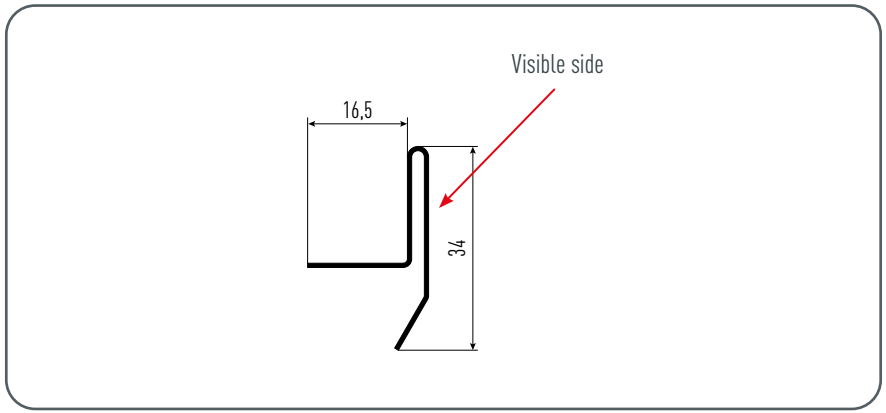


Figure 30 · End profile

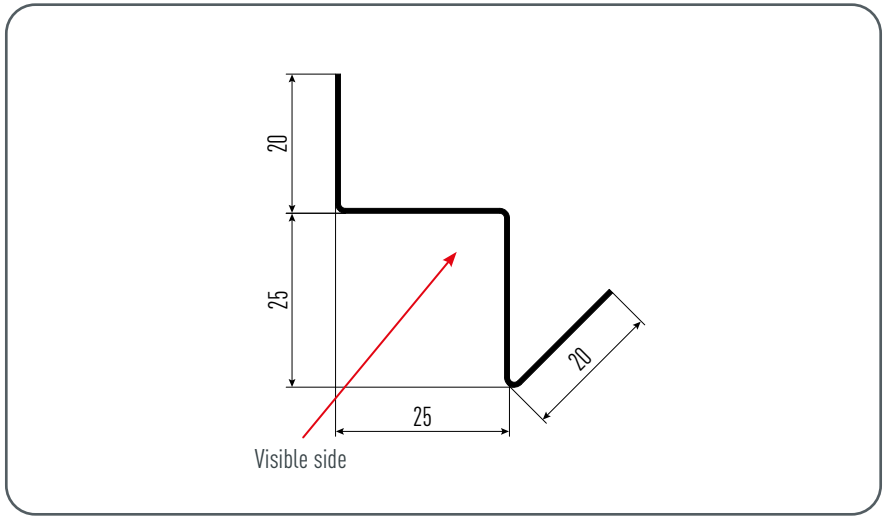


Figure 31 · Internal corner (in several parts)

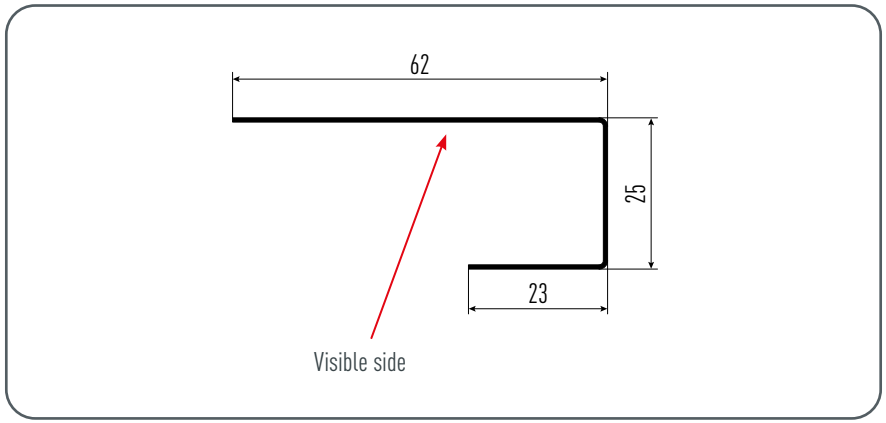


Figure 32 · Channel profile (flashing strip)

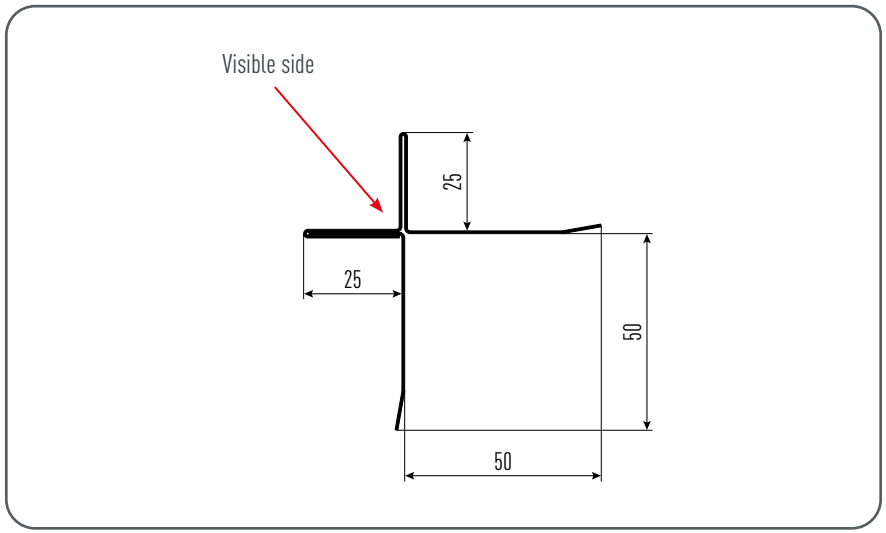


Figure 33 · External corner (2 parts)

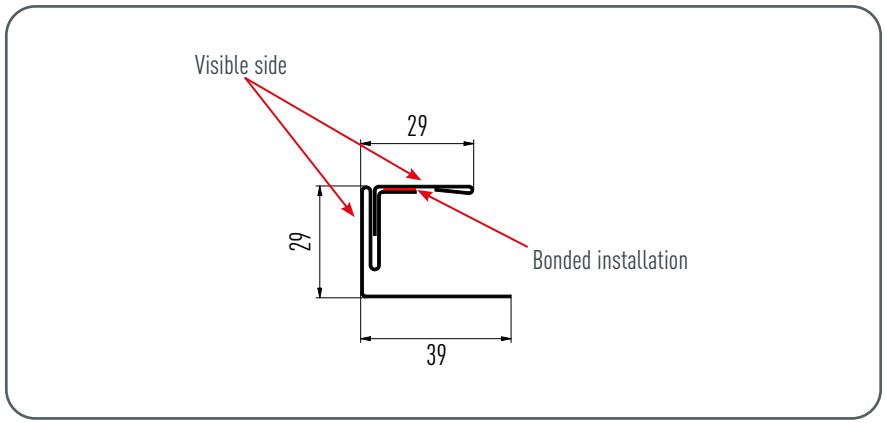


Figure 34 · End profile glued (two parts)

2 ACCESSORY PROFILES (PROFILE DEPTH 32 mm)

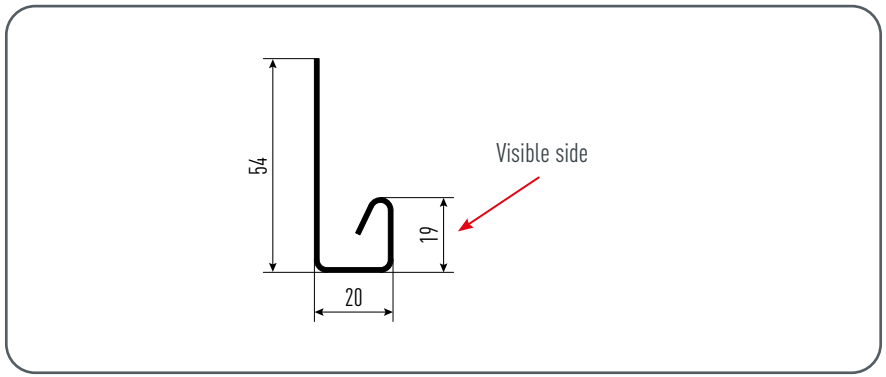


Figure 35 · Starter profile

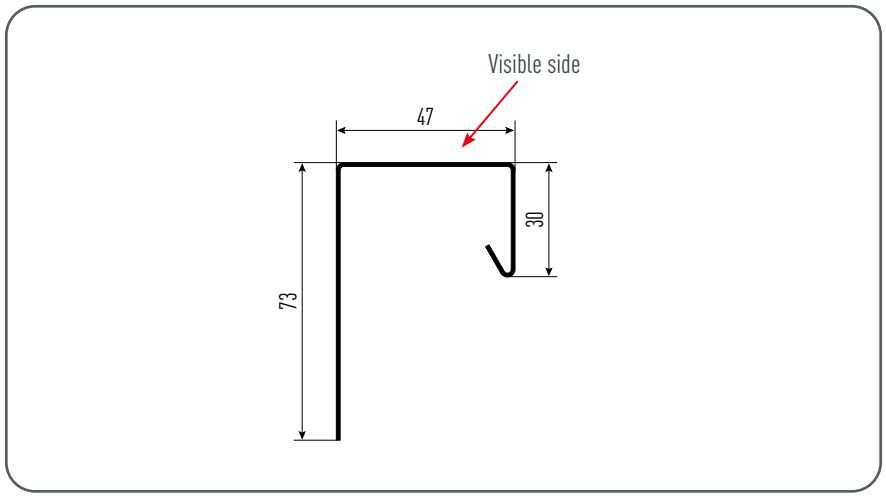


Figure 36 · Canted channel profile

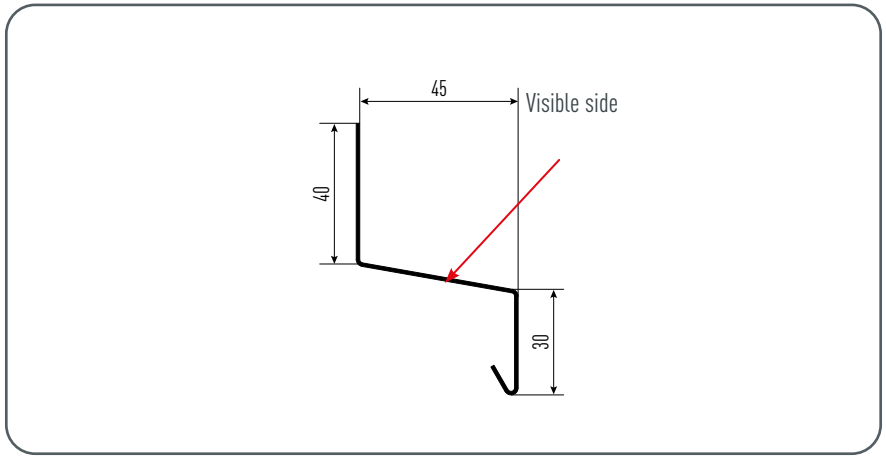


Figure 37 · Drip

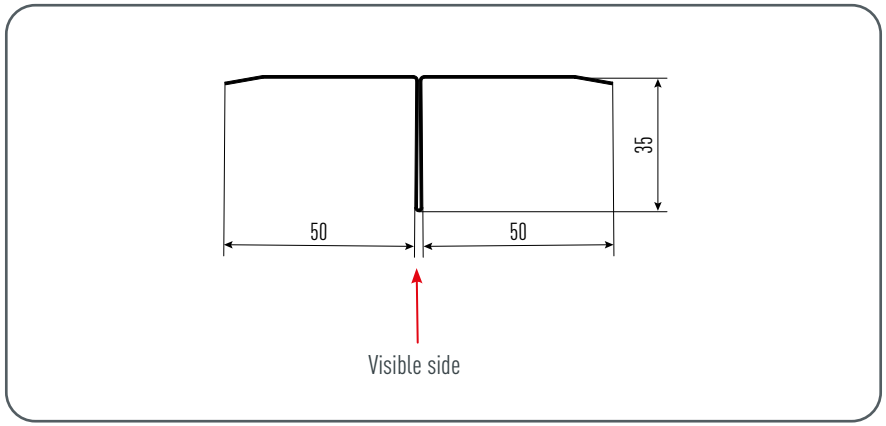


Figure 38 · Joint connection

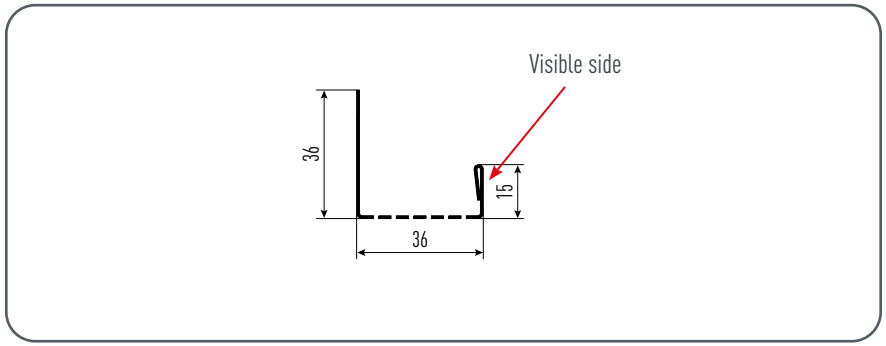


Figure 39 · Perforated starter profile

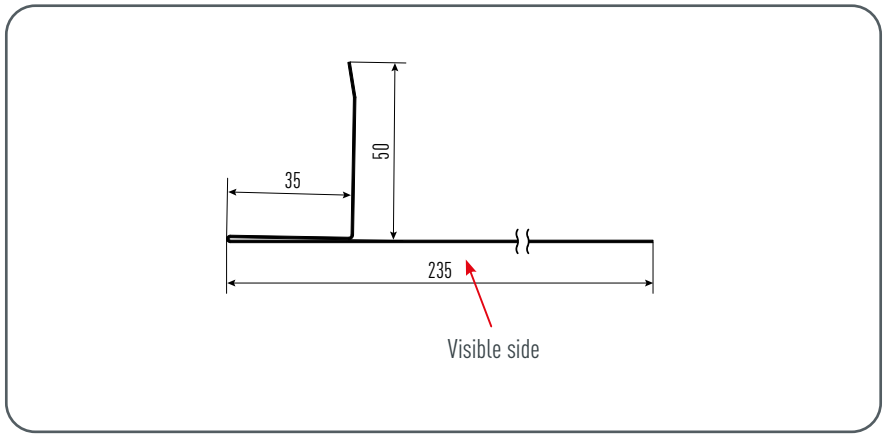


Figure 40 · Jamb flashing

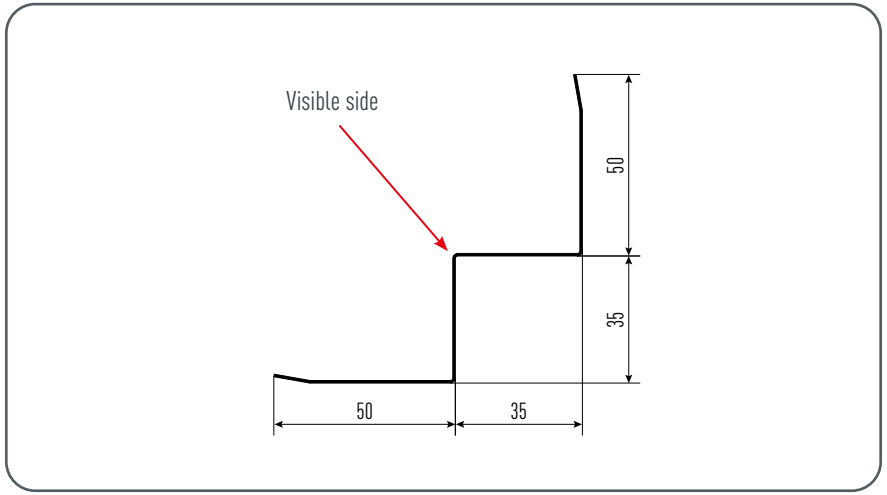


Figure 41 · Internal corner (one-piece)

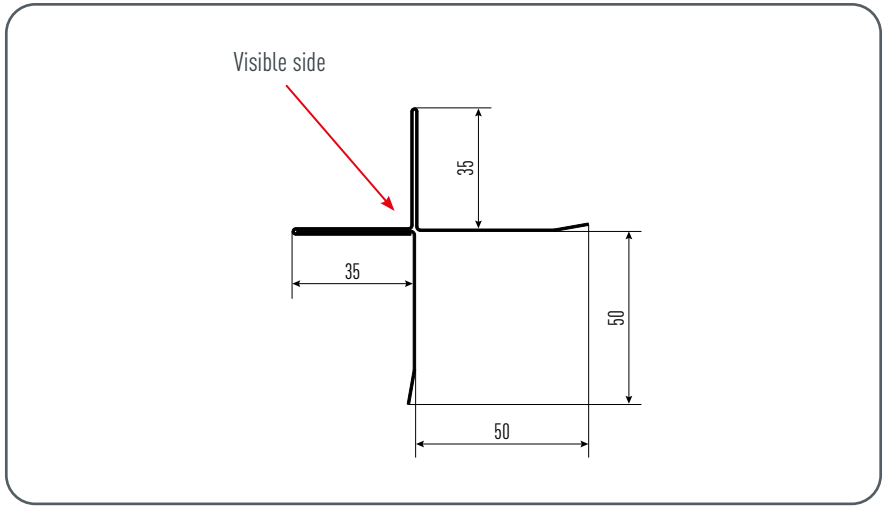


Figure 42 · External corner (2 parts)

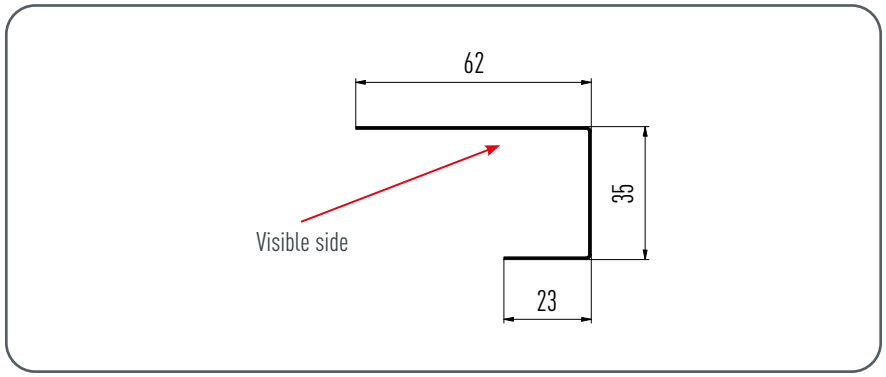


Figure 43 · Channel profile (flashing strip)

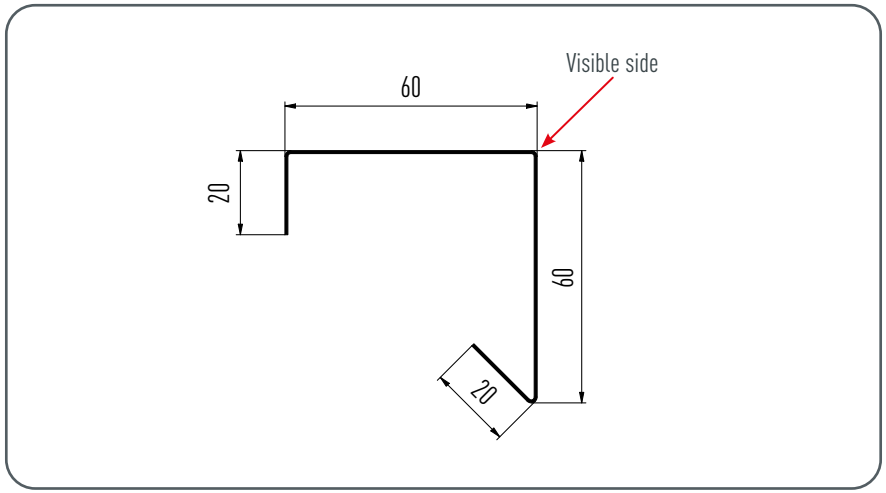


Figure 44 · External corner (in several parts)

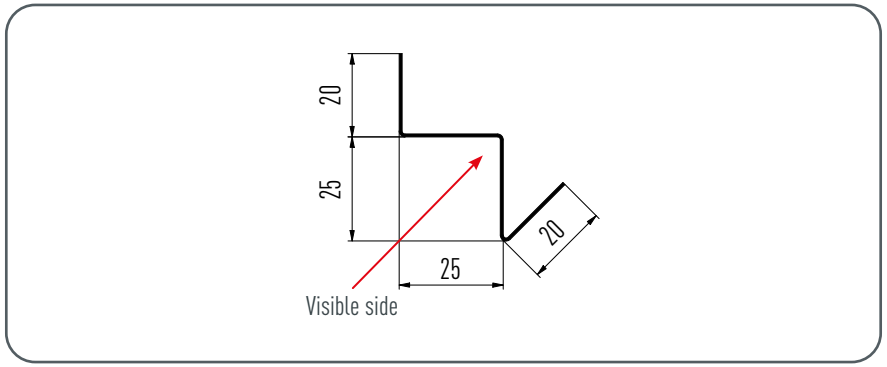


Figure 45 · Internal corner (in several parts)

3 ACCESSORY PROFILES FOR (REGARDLESS OF THE PROFILE DEPTH)

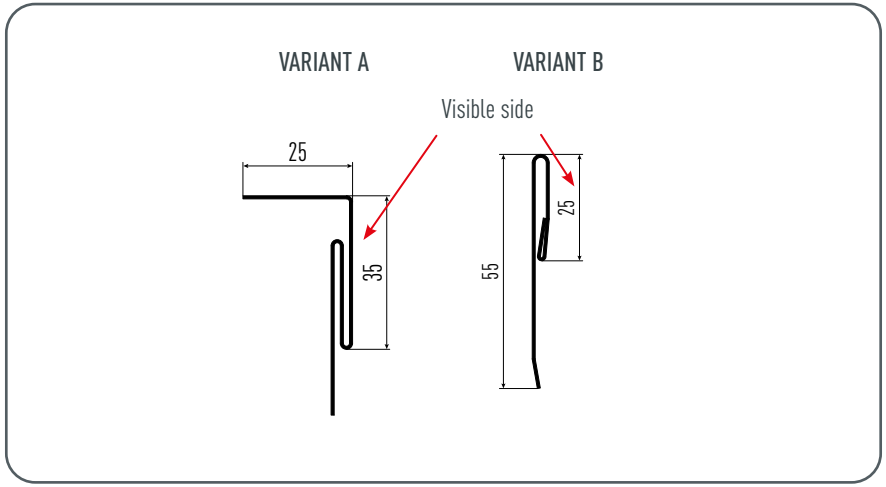


Figure 46 · Pocket flashing

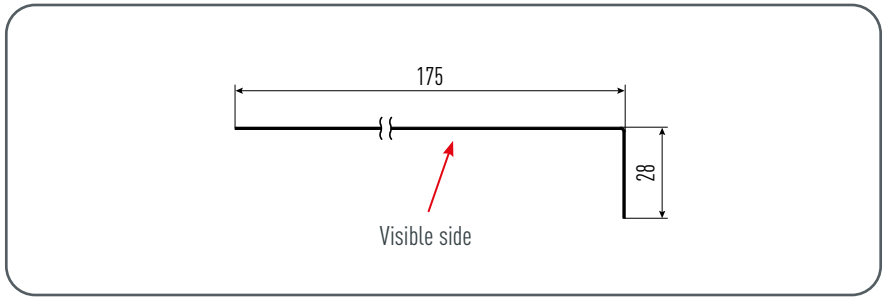


Figure 47 · Base profile

QUANTITY DETERMINATION

STEP 1

Measuring the façade surfaces to be clad:

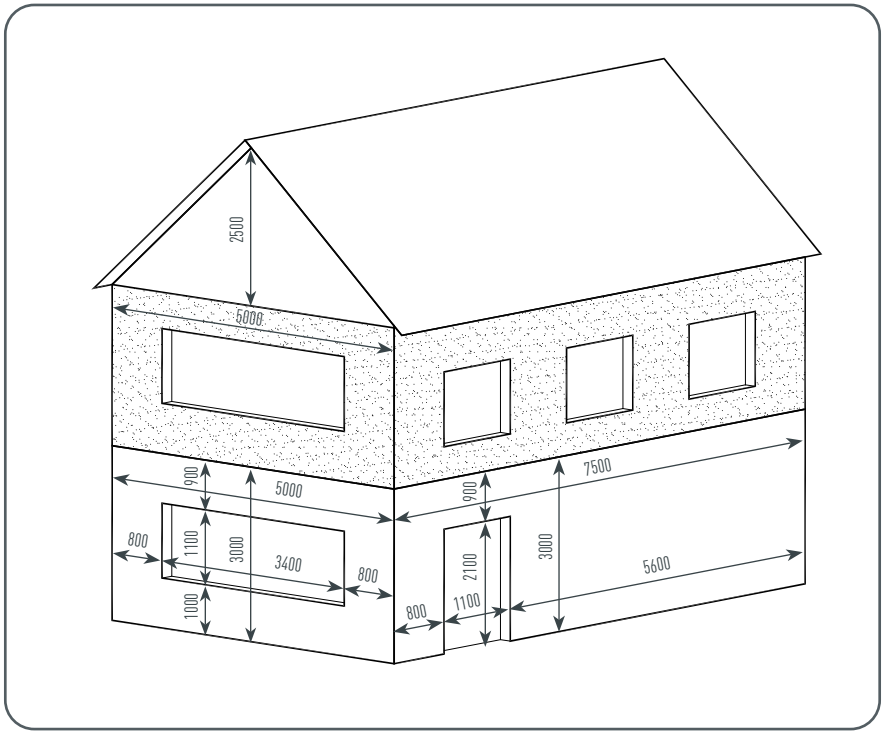


Figure 48 · Dimensions required for façade surface quantity determination

STEP 2

You can determine the separation of the individual profile lengths, and thus also the design of the façade, depending on the direction of the profiles on the façade (horizontal, vertical or diagonal).

Ensure production-based lengths and that the profile joints are formed in such a way that they can expand.

In the case of installation with an even offset or in the case of consistent profile length, it is recommended to divide the façade, using a siding, siding.X or perforated siding, in order to achieve the required quantity.

Use the standardised PREFA installation schemata for determining the quantity of a siding.X façade.

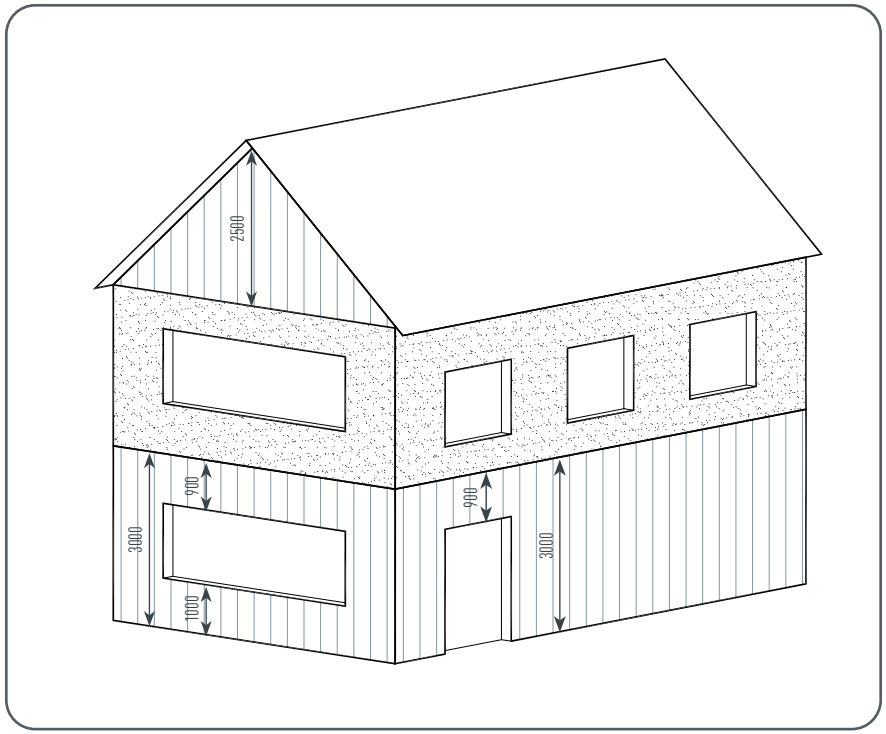


Figure 49 • Vertical façade design

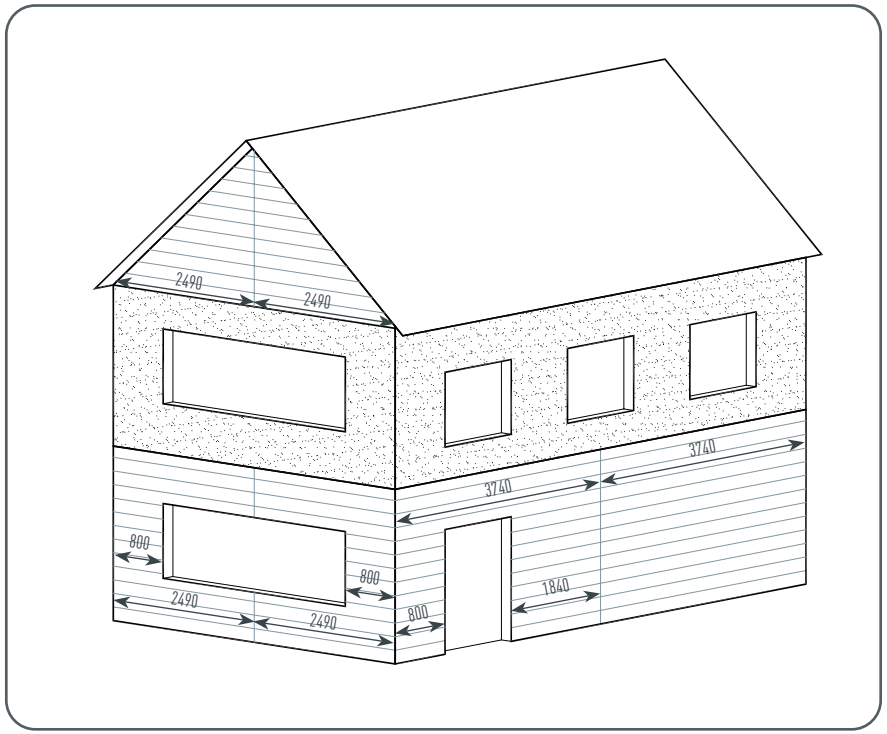


Figure 50 • Horizontal façade design

STEP 3

Cut-outs, such as for doors or windows, that partially intrude into a siding should be ignored during material determination and adapted on-site (areas marked in red).

Gaps, such as window openings < 1 m² should be ignored.

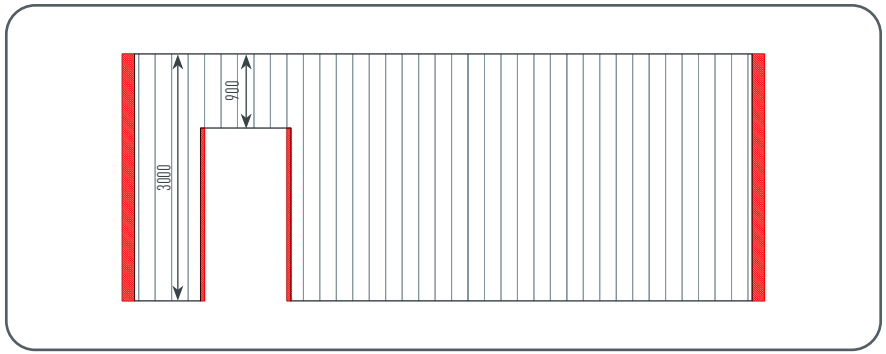


Figure 51 · Recesses to be adapted vertically on-site

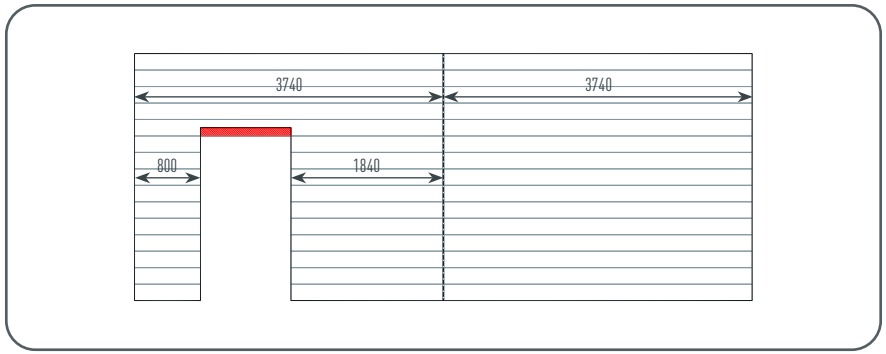


Figure 52 · Recesses to be adapted horizontally on-site

In the case of triangular surfaces, such as gable wall cladding, the symmetrical orientation of the siding is important to ensure a visually attractive appearance. Therefore, it is highly recommended to make a layout for positioning of the panels. Fig. 53 provides two options either with the shadow gap in the center or exactly in the middle of a siding vertical width.

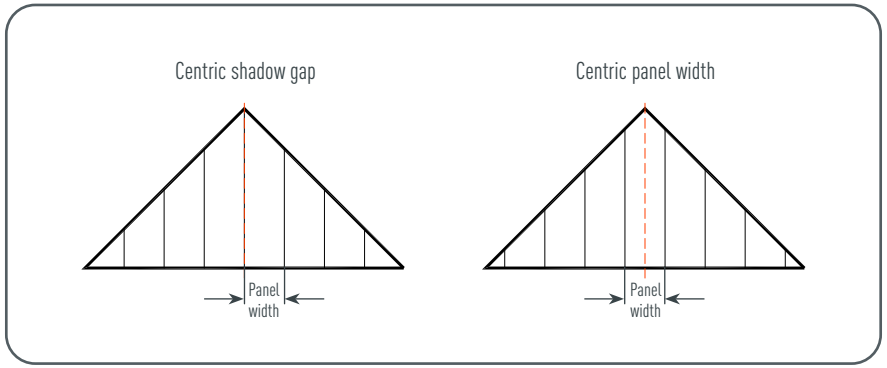


Figure 53 · Symmetry gable wall cladding

Diagonal cuts must be done on site to make the panel suit required dimensions. Consider that prepared panels should be approx. 10 mm shorter to allow unobstructed installation. Cutting edges are concealed with a channel profile.

NOTE

If a diagonal stop end is required to stiffen the panel, do not forget to add dimensions.

For logistic reasons, PREFA recommends grouping at least 4-6 parts per profile length and determining as follows:

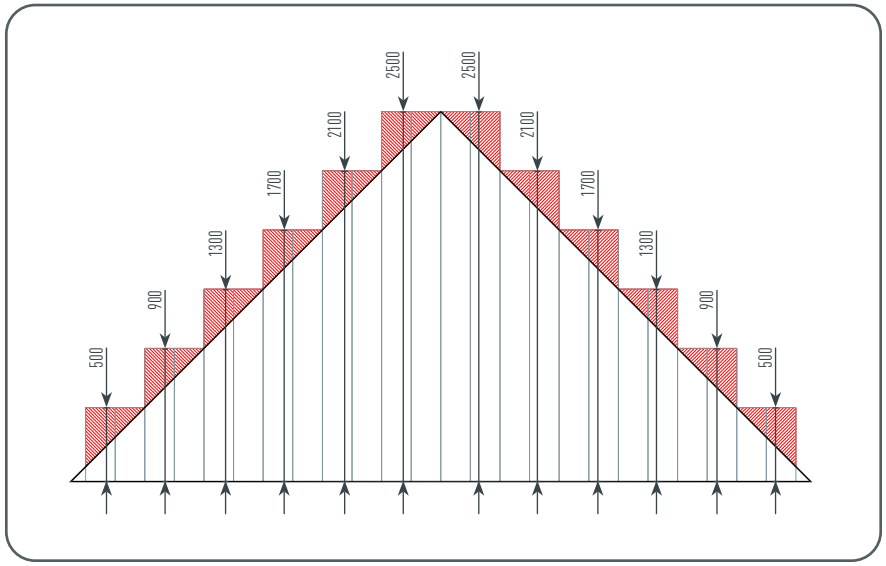


Figure 54 · Quantity determination of vertical gable wall cladding

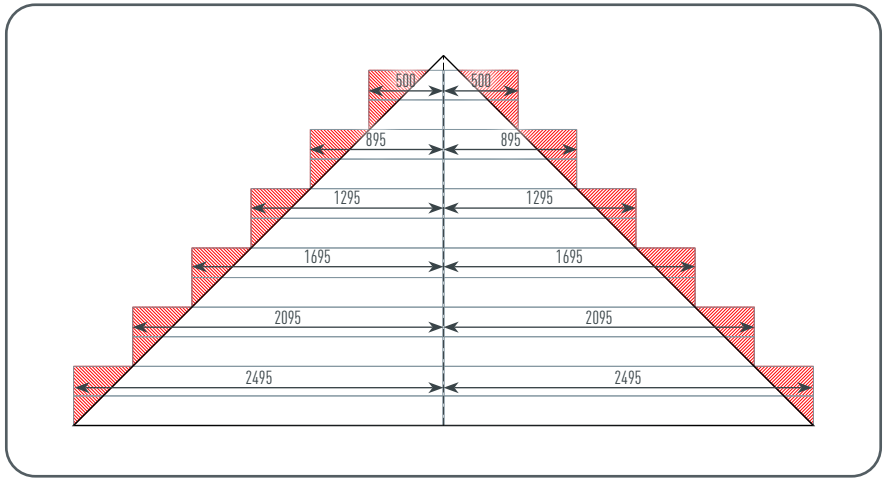


Figure 55 · Quantity determination of horizontal gable wall cladding

STEP 4

You should also calculate the running metre for the starter profile and amount of screws required (6–9 pcs./m² – depending on the spacing on the substructure) and storm-proof clips if necessary.

STEP 5

Do not forget to order spare material. Depending on the order volumes, PREFA recommends at least 1-2 sidings with the longest profile length.

PREFA JOINT

The PREFA joint is a butt connector for two sidings and can only be used for siding, siding.X and perforated siding with or without a shadow gap and stop end. The PREFA joint is only available in standard widths.

NOTE

When used in combination with perforated siding, the PREFA joint is not perforated.

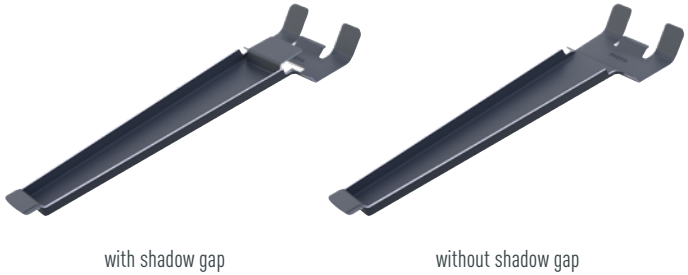


Figure 56 · PREFA joint

If using the PREFA joint, Sidings can be installed vertically and horizontally with a maximum length of 2500 mm. The width of the PREFA joint is 15 mm and corresponds to the shadow gap, and can be installed independent of the substructure. To butt join sidings without using the PREFA joint is not recommended, since the material expansion cannot be absorbed under tension.

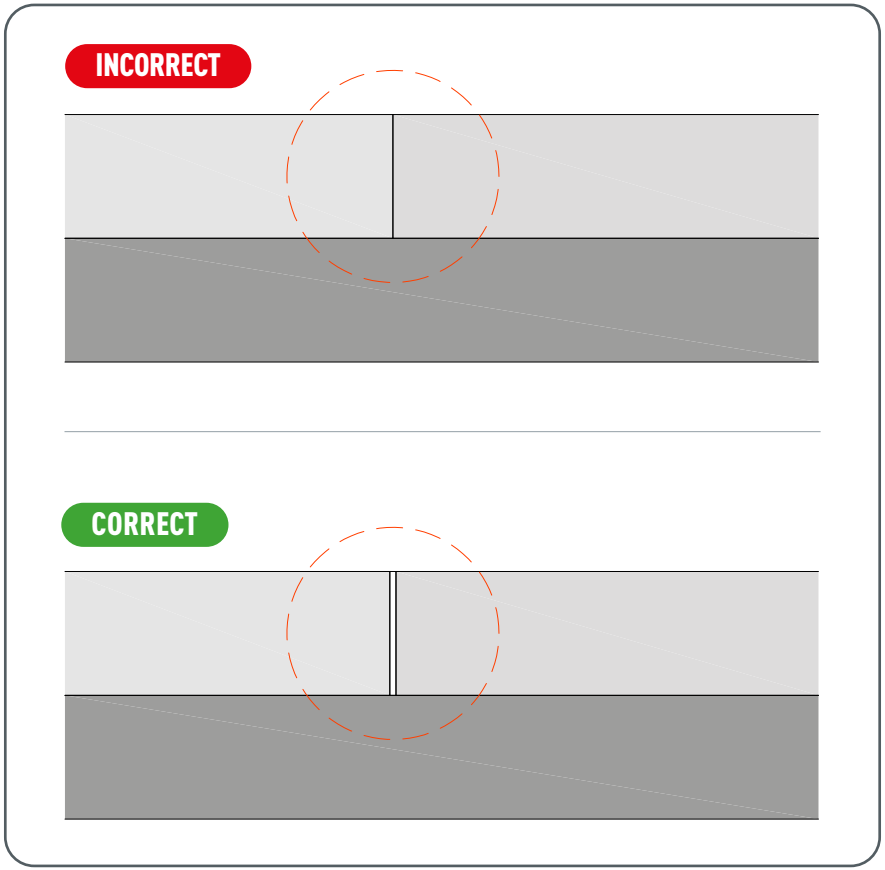


Figure 57 · Siding joint

The installation of PREFA joints directly on top of each other is not possible:

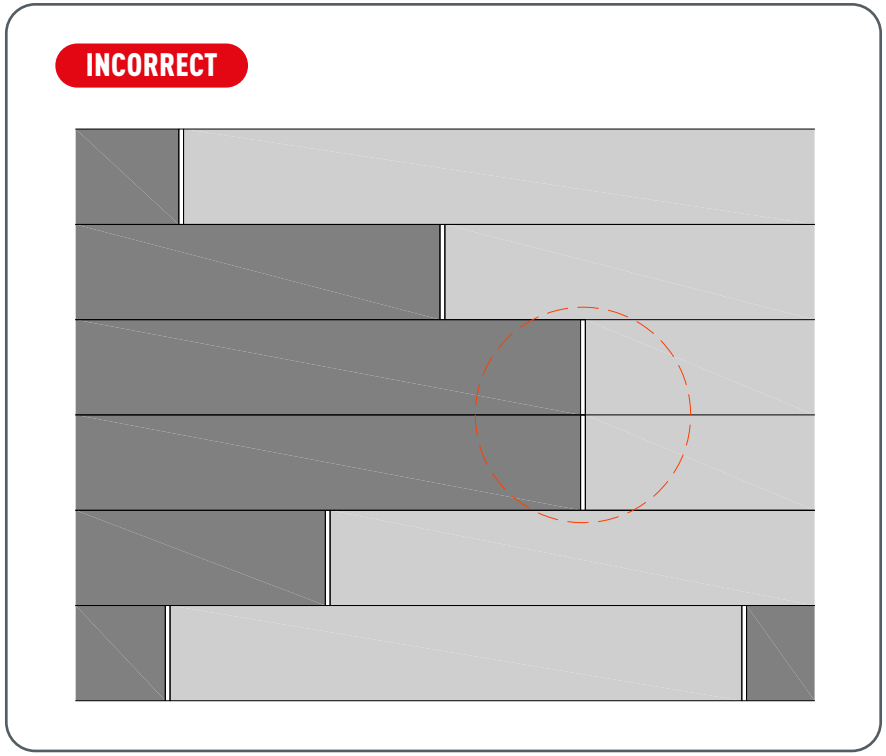


Figure 58 · PREFA joint offset misaligned

PREFA recommends an offset (x) with a min. spacing corresponding to the installed width (BB), e.g. for siding: 138 × 0.7 mm = min. offset 138 mm:

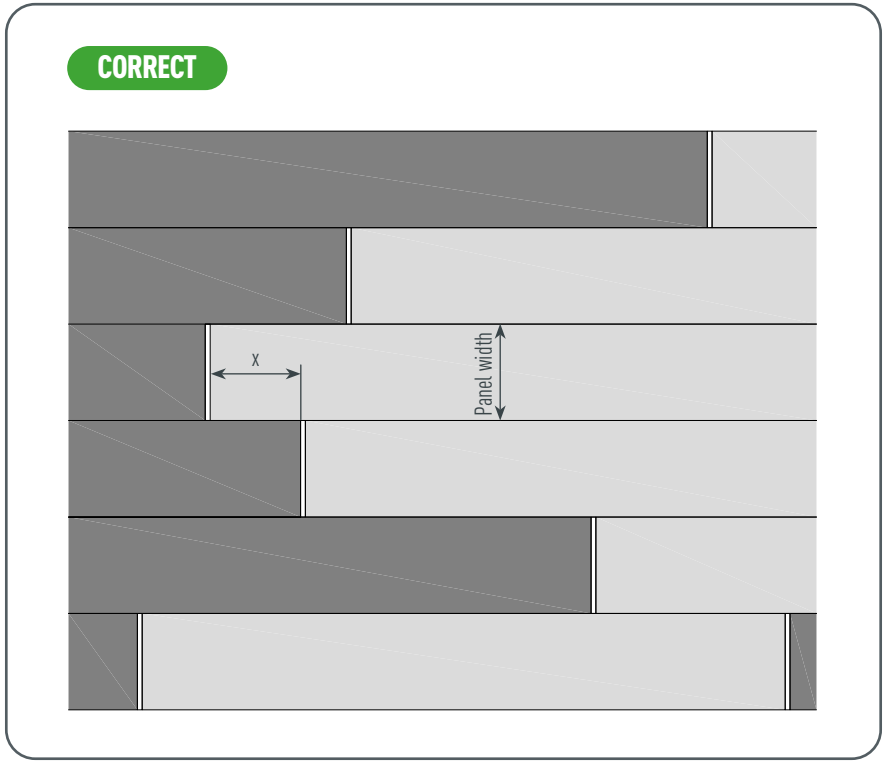
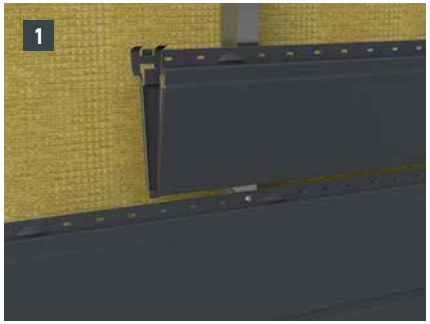
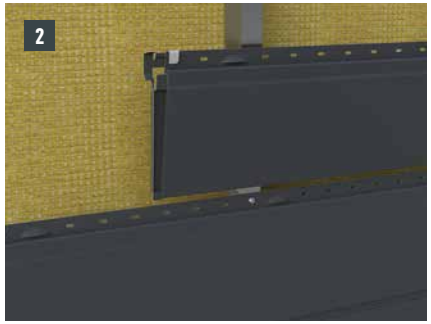


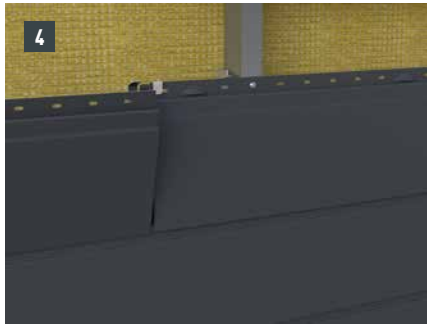
Figure 59 · PREFA joint offset misaligned

INSTALLATION OF PREFA JOINT

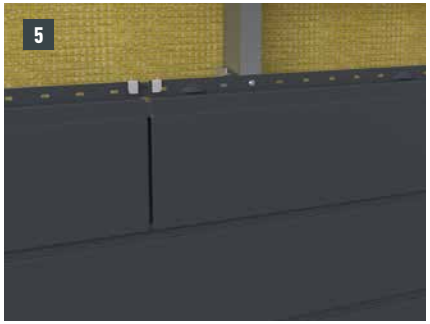




- Insert PREFA joint into the stop end of the siding (Image 1).
- Fix PREFA joint to the back of the siding using a pre-bent tab (Image 2).



- Install siding with pre-installed joint according to the siding installation guidelines and fasten to the substructure (Image 3).
- Position the next siding and insert the lateral stop end into the PREFA joint (Image 4).



- Fix the flap to the back of the PREFA joint on the siding (Image 5).
- Install next PREFA siding with corresponding offset (Image 6).

PROCESSING SIDING, SIDING.X AND PERFORATED SIDING

The aluminium siding, siding.X and perforated siding are fabricated to the dimensions specified when ordering.

For individual processing, we recommend, in addition to the usual tinsmith hand tools, the use of a suitable mitre saw, hand saw or circular table saw with a blade that is suited to cutting aluminium. We recommend tensioning the profiles on a workbench using guide rails. It is a good idea to use a jigsaw and drill for piercing and making individual cut-outs.

Take extra care to ensure that the workbench is free from shavings to avoid scratches to the surface. After cutting the profiles, remove any burring using a fine-grain file or sandpaper.

FASTENING AND INSTALLATION

The concealed tongue and groove assembly system for the siding, siding.X and perforated siding consists of pre-punched slots along the fastening strip and a coordianted drilling screw for an aluminium or timber substructure.

NOTE

The fastening of the siding, siding.X and perforated siding is carried out solely in a concealed manner along the pre-punched fastening strip with fixed and sliding points.

Please note that the installation must be carried out in a pressure-free state. Do not press the siding, siding.X or perforated siding too tightly into each other, as this can cause tension. The siding must be fit absolutly flat to the substructure to avoid concave or convex deformation of the siding.

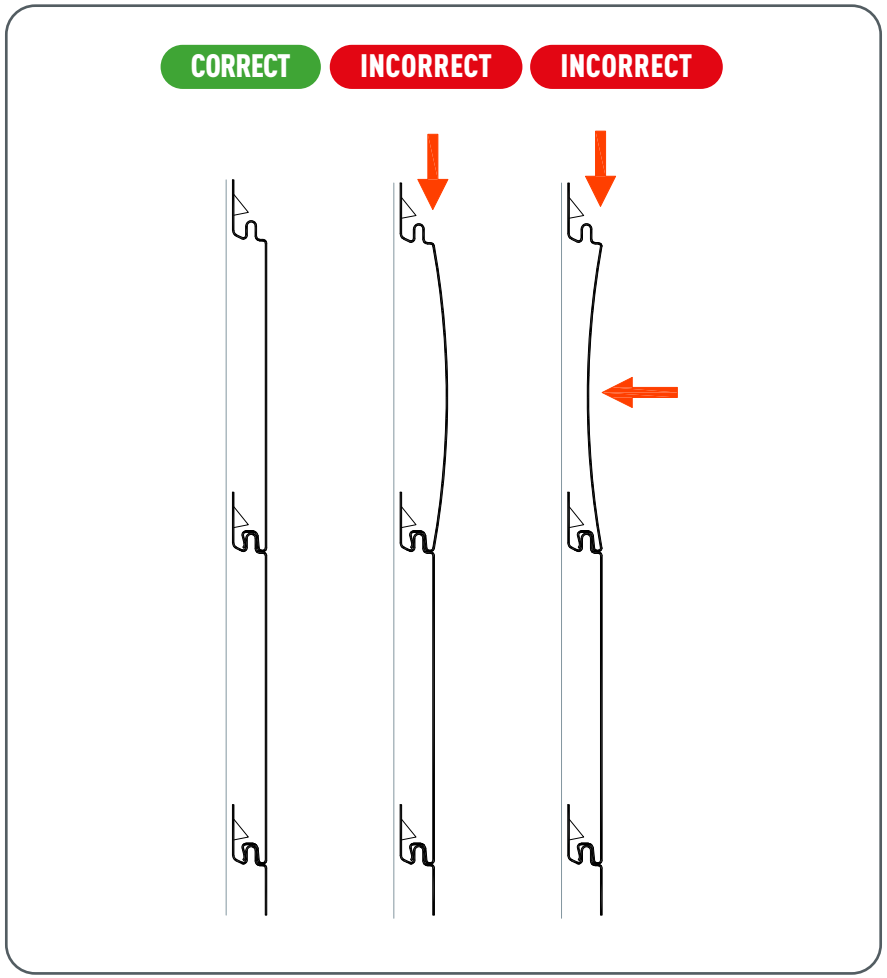


Figure 60 · Tension caused by incorrect installation

FASTENERS

Metal screw for aluminium substructure

Fastening to aluminium support profiles (L- or T-profiles)
Special screw JT3-LT-2H-Plus-5.5×25
Head diameter: 12 mm (T25)
Material: A2 stainless steel
Requirement: 6–9 pcs./m²

Metal screw for steel substructure

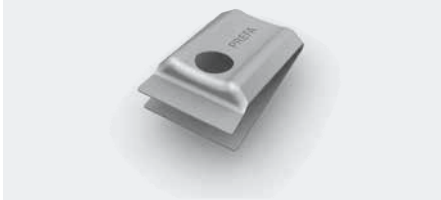
Fastening to steel profile sheets 0.4–1.0 mm
Special screw JF3-LT-2H-5.5×25
Head diameter: 12 mm (T25)
Material: A2 stainless steel with hardened steel point
Requirement: 6–9 pcs./m²

Wooden screw

Fastening on timber sub-structure
Special screw JT4-FR-2-4.9×35
Head diameter: 12 mm (T25)
Material: A2 stainless steel
Requirement: 6–9 pcs./m²

STORM-PROOF CLIP

Storm-proof clip for profile depth 22 mm

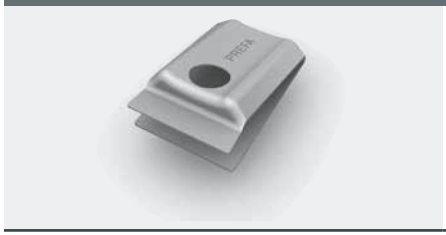


Material: stainless steel
Requirement: Number of parts per m² depending on the substructure spacing and the siding.X installation schematic

Storm-proof clips must be installed for the following combinations of width and material strength:

- Siding 400 × 1.2 mm
- Perforated siding 400 mm × 1.2 mm
- Siding.X 300 × 1.0 mm
- Siding.X 400 × 1.0 mm

Storm-proof clip for profile depth 32 mm



Material: stainless steel
Requirement: Number of parts per m² depending on the substructure spacing

Storm-proof clips must be installed for the following combinations of width and material strength:

- Siding 500 × 1.5 mm
- Siding 600 × 1.5 mm

INSTALLATION OF STORM-PROOF CLIPS

The spacing between the storm-proof clip and siding tongue is decisive for tension-free installation and material expansion. For this reason, install the storm-proof clip exclusive with the appropriate installation aid to ensure consistent spacing.

The storm-proof clip must be installed on all fastening points with the following combination of material thickness and width (each siding must be fastened on at least two substructure profiles).

NOTE

For perforated siding, the substructure and the fastening strip, including storm-proof clips, are visible through the perforation.

Storm-proof clip installation aid for material strength = 1.0 mm

For the installation of storm-proof clips in:
300×1.0 mm siding.X
400×1.0 mm siding.X

Storm-proof clip installation aid for material strength = 1.2 mm

For the installation of storm-proof clips in:
400×1.2 mm siding
Perforated siding 400×1.2 mm

Storm-proof clip installation aid for material strength = 1.5 mm

For the installation of storm-proof clips in:
500×1.5 mm siding
600×1.5 mm siding

The storm-proof clip is screwed into the fastening strip (spring) and holds the overlapping siding in place:

Figure 61 · Storm-proof clip

NOTE

If you start off the façade with a 400 × 1.2 mm siding, for example, you must fasten the storm-proof clip to the starter profile.

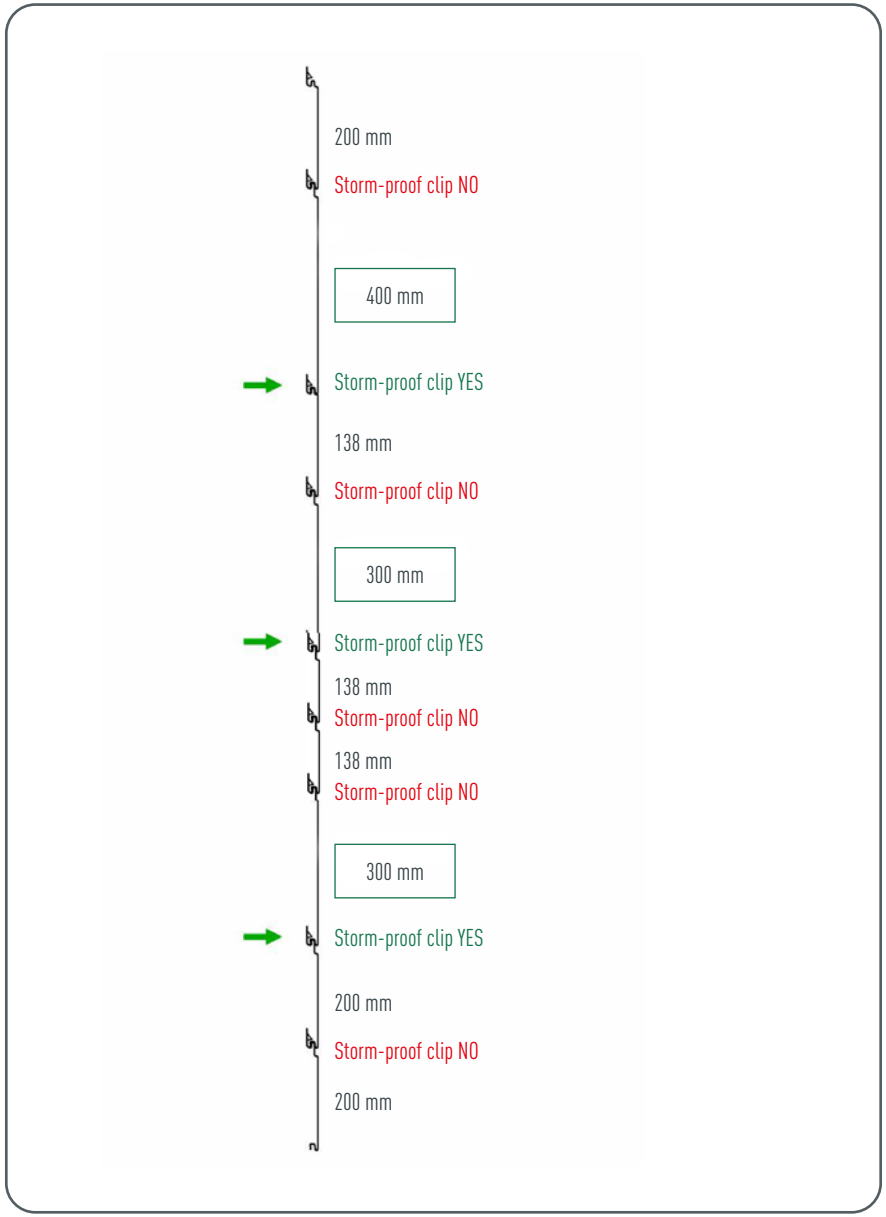
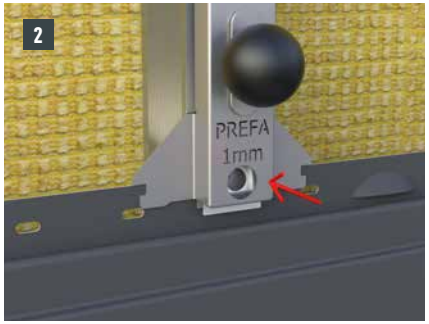
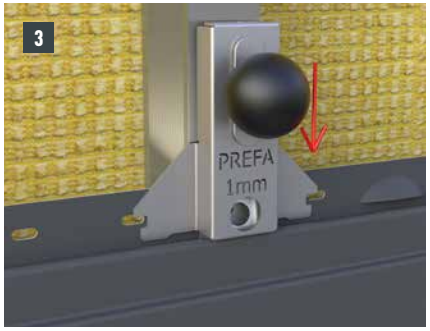


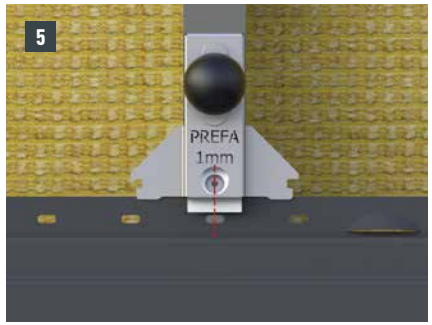
Figure 62 · Storm-proof clip for Siding.X

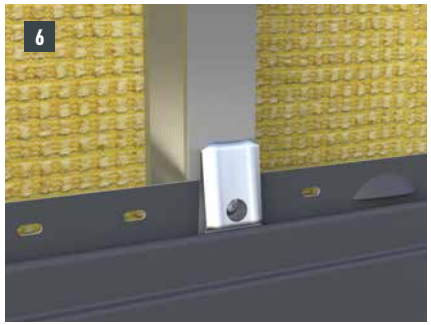


- Insert PREFA storm-proof clip accordingly into the PREFA installation aid (Image 1).
- Then place the PREFA installation aid with the inserted storm-proof clip on the fastening strap and align it laterally. The hole on the back of the clip must be centered over the elongated hole in the siding (Image 2).



- Push the PREFA installation aid with the storm-proof clip into the fastening strap (Image 3).
- The storm-proof clip is then attached to the substructure (Image 4).





- Ensure that the installation aid is positioned in the centre of the elongated hole. The side flaps on the installation aid assist in finding the right position in the centre of the elongated hole.
- The PREFA installation aid can now be removed from the fastening strap. This creates the required spacing for further installation (Image 6).

- Next install the PREFA siding in accordance with installation guidelines, which is held in place by the storm-proof clip (Image 7).

MATERIAL EXPANSION

Siding, siding.X and perforated siding may only be used at temperatures ranging from –50°C to +80°C. Due to expansion of the material when exposed to temperature fluctuations, you must always pay attention to the arrangement of fixed and sliding points. There must be a gap in the profile joint to accommodate for thermal expansion. The width of this gap depends on the expected change in dimensions. However, a width of at least 10 mm is recommended or the use of a PREFA joint with a max. siding length of 2500 mm.

NOTE

Expansion gaps in the substructure must be taken into account.

Thermal expansion caused by fluctuations in temperature during inclement weather can have a negative impact on the appearance of the façade in the event of non-compliance with the dimensioning of fixed and sliding points.

The thermal expansion coefficient of the siding, siding.X and perforated siding is 0.024 mm/m/°C. 24×10^{-6} K-1.

THERMAL EXPANSION		
Profile length	Expansion at a temperature difference of 60°	Expansion at a temperature difference of 100°
2 m	2.88 mm	4.80 mm
3 m	4.32 mm	7.20 mm
4 m	5.76 mm	9.60 mm
6 m	8.64 mm	14.40 mm

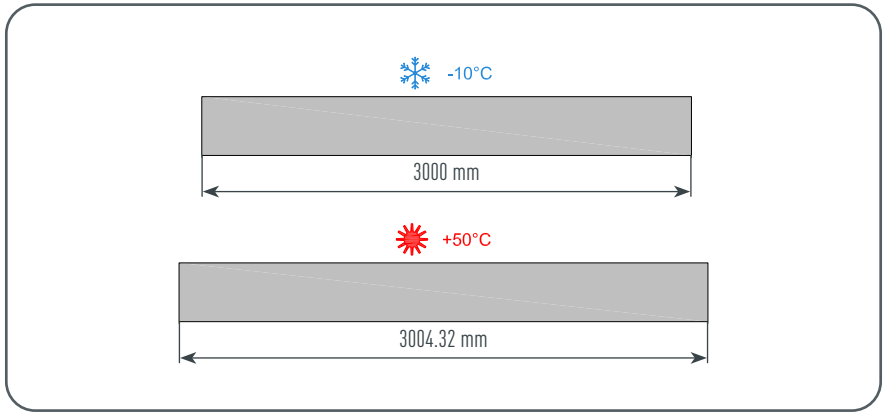


Figure 63 · Material expansion

NOTE

The fixed and sliding points must be defined clearly for each siding.

The sidings must be fastened using fixed and sliding points. Depending on the direction of installation, use only one circular hole per profile in the centre. The rest of the profile should be fastened to the substructure using slot holes.

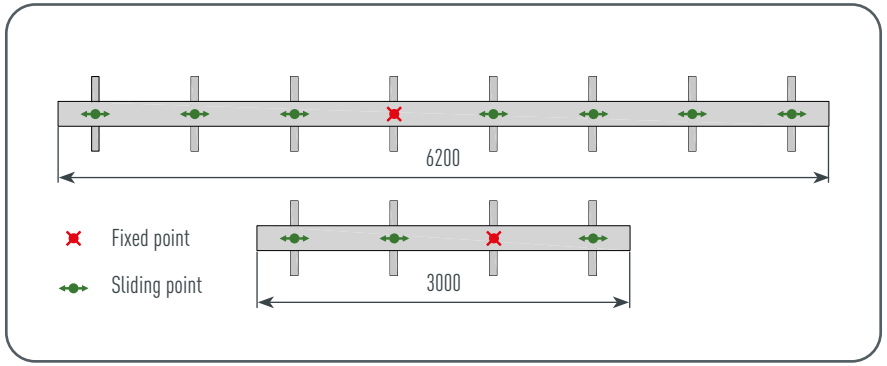


Figure 64 · Arranging fixed and sliding points for sidings

1 FIXED POINT

Screw the fastening screw directly into the material between the elongated holes.

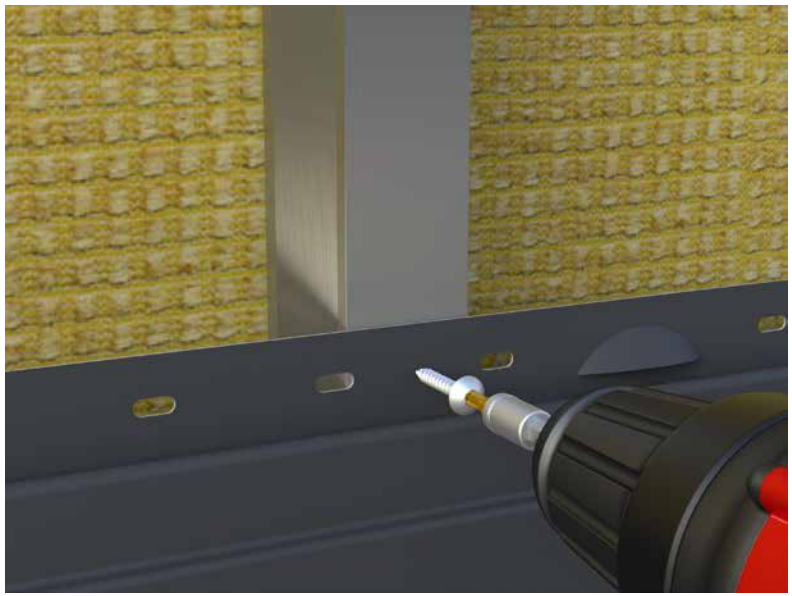


Figure 65 · Fixed point

2 SLIDING POINT

The fastening screw is fixed centrally through the pre-punched hole in the fastening strap into the support profile. If no pre-punched hole is placed directly over the supporting rail, a punching tool should be used to make an elongated hole to allow unobstructed expansion, for example, in order to enable tension-free expansion of the siding.

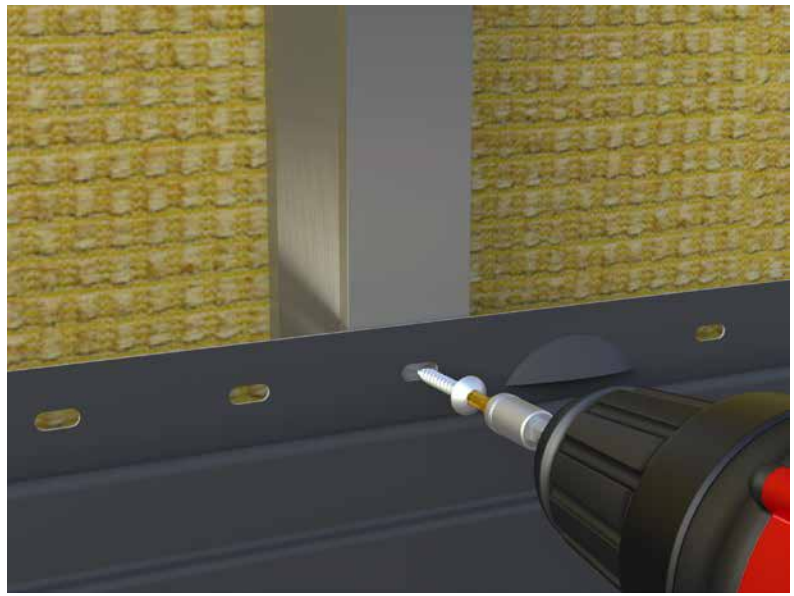


Figure 66 · Sliding point

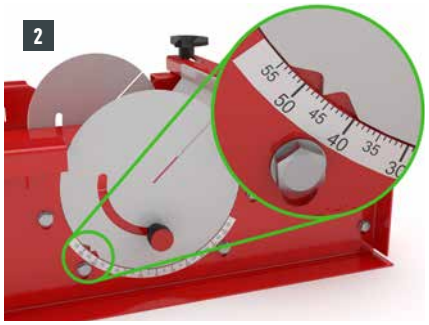
CORNER SIDING

NOTE

Internal corner sidings are only possible for sidings without a shadow gap.

1

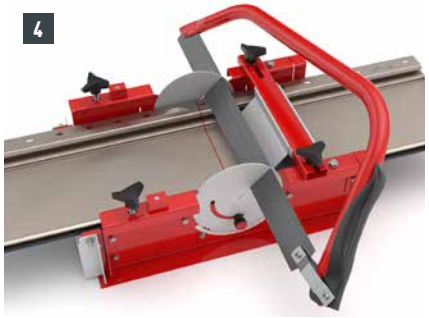
2



- To manufacture a corner siding by hand, you need a cutting box with a miter saw (Image 1).
- For a 90° corner, place the guide rail at approx. 46-47° on both sides (Watch out for the handle springing back when bending. (Image 2)).

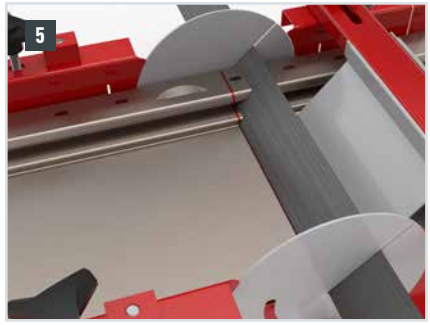
3

4



- Then mark the bend line on the back of the siding (Image 3).
- Next, fix the siding in the cutting box and cut along the guide rail (Image 4).

5



6

- Do not saw too deep, as you will saw into the back of the siding otherwise. (Hold the saw at an angle to avoid sawing into it.) Otherwise there would be a paint crack on the visible side when bending (Image 5).

NOTE

Be particularly careful with siding.X due to the uneven visible surface.

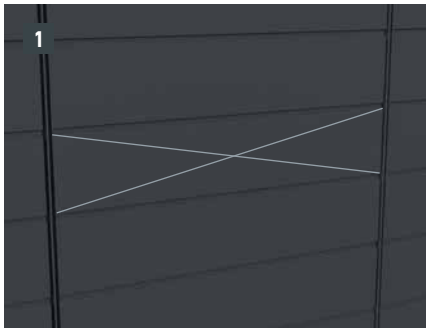
7

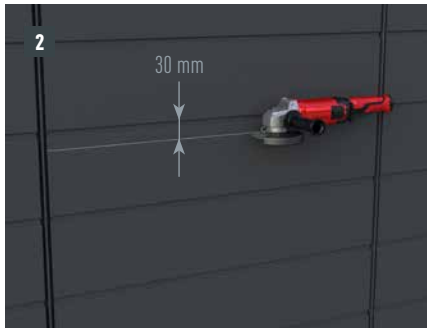
8

- In the last processing step, edge the siding with a box folder to a 90° edge (Image 7).

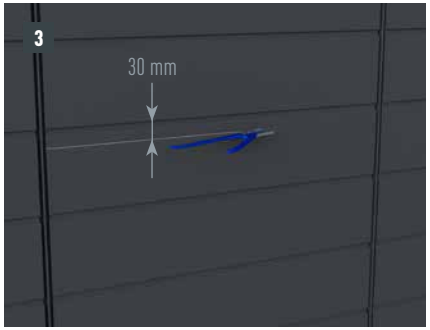
REPLACING SIDING, SIDING.X AND PERFORATED SIDING

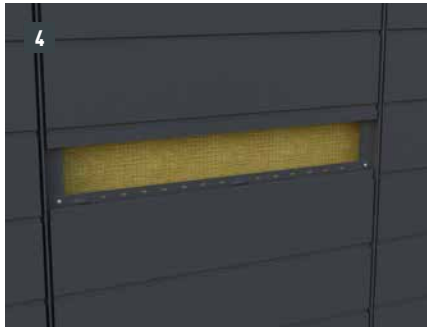
In order to replace siding (Image 1), proceed as follows:



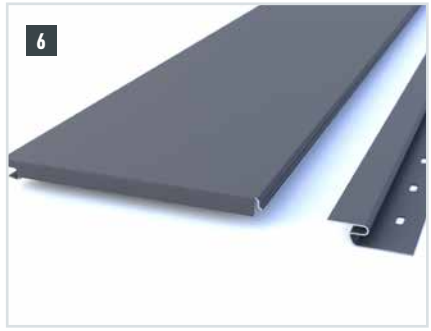


- Cut out the damaged siding using an angle grinder or pelican snips. Keep a strip of metal, measuring approx 30 mm, below the shadow gap to support the new panel (Image 2 and 3).

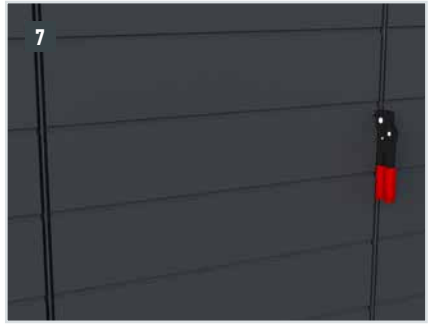


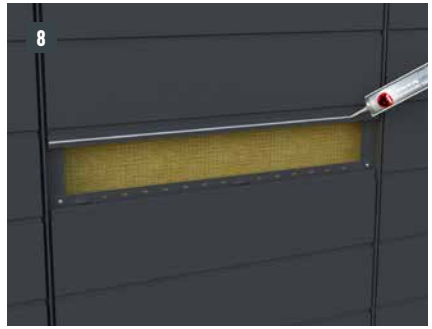


- Then remove the damaged siding from the groove/tongue catch (Image 4).



- For the next step, cut along the bending line a few times as shown in image 5, using a sharp blade to get a straight break line. In this way, you will get a perfect breaking point (Image 5).
- Break off the metal when bending it forwards and backwards (Image 6).





- Finally, to replace the siding you could either use rivets for visible fixing or glue for hidden fixing. If using the bonding method, it is beneficial to apply pressure to the panel and keep it in place with tape until the glue has cured (observe gluing instructions, image 7 + 8).

DETAILS AND CONNECTIONS

NOTE

All details, such as windowsills, jamb and head flashings and parapet cappings can be found in the PREFA Standard Details and the PREFA Planning Guidelines for Façades.

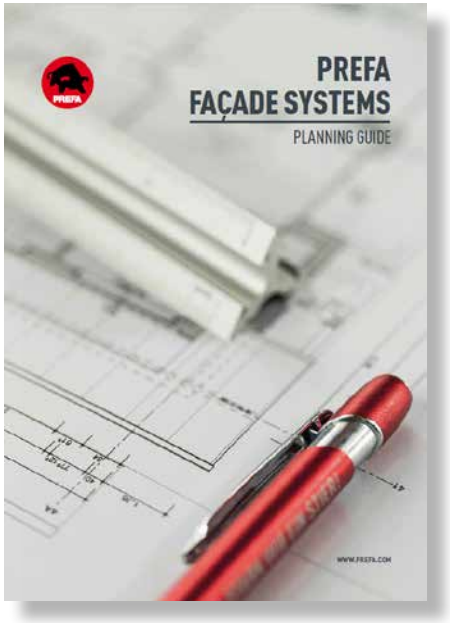


Figure 67 · PREFA Planning Guidelines for Façades

STARTER DETAIL

Once the rail and bracket system has been completed, start with installation of abutment trim, base profile, perforated flashing and drip edge. The rain guard joint is overlapped and glued down. The (concealed) underlying rain guard is then cut into so that the overlying rain guard can be installed.

Figure 68 · Drip edge joint

Alternatively, the drip edge could be joined using a glued soaker flashing:

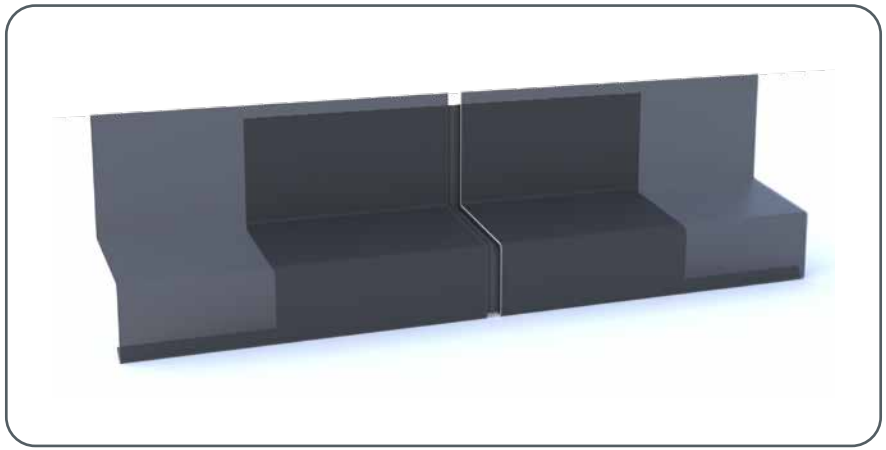


Figure 69 · Drip edge joint

After all components of the starter detail have been finalized, depending on the layout, the starter profile or perforated profile can be installed.

1 STARTER PROFILE FOR HORIZONTAL INSTALLATION

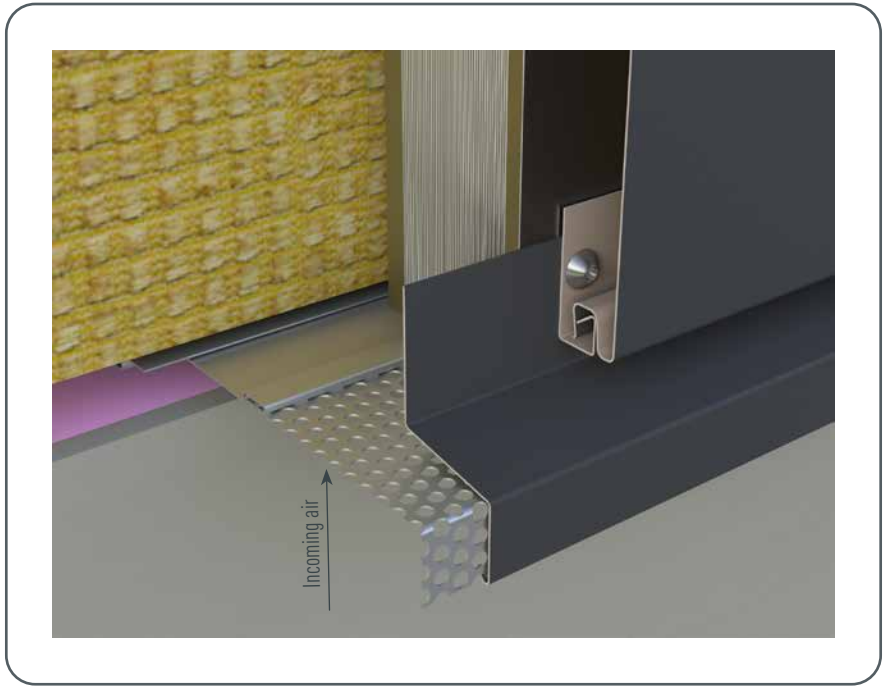


Figure 70 · Starter profile for horizontal installation

2 PERFORATED STARTER PROFILE FOR VERTICAL INSTALLATION

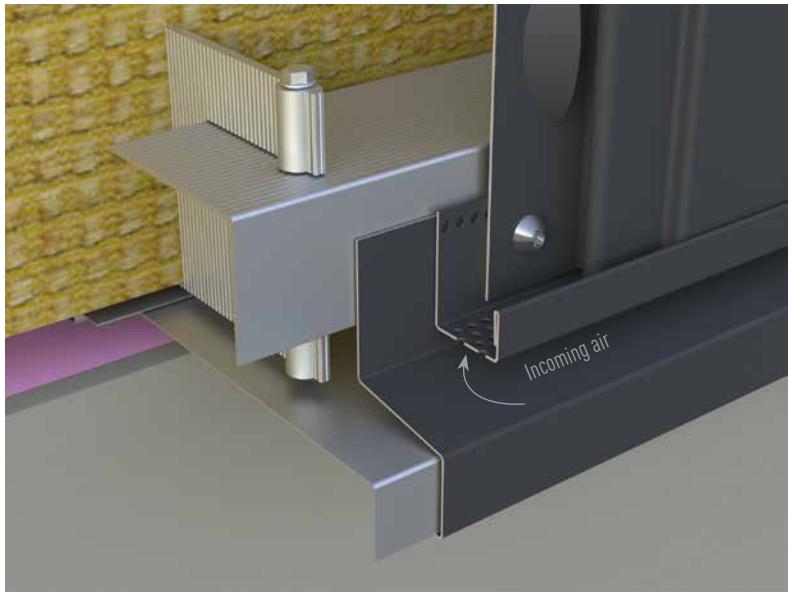


Figure 71 · Perforated starter profile for vertical installation

NOTE

When using the perforated starter profile and siding with a stop end, you must ensure that a distance of at least 5 mm is maintained between the stop end and the perforated starter profile. If the stop end is directly in contact with the perforated starter profile, there is insufficient incoming air and no functioning rear ventilation.

Furthermore, it would restrict the material expansion of the siding.

In order to ensure adequate air inflow via the rear ventilation, the spacing between the perforated starter profile and drip edge must be min. 10 mm.

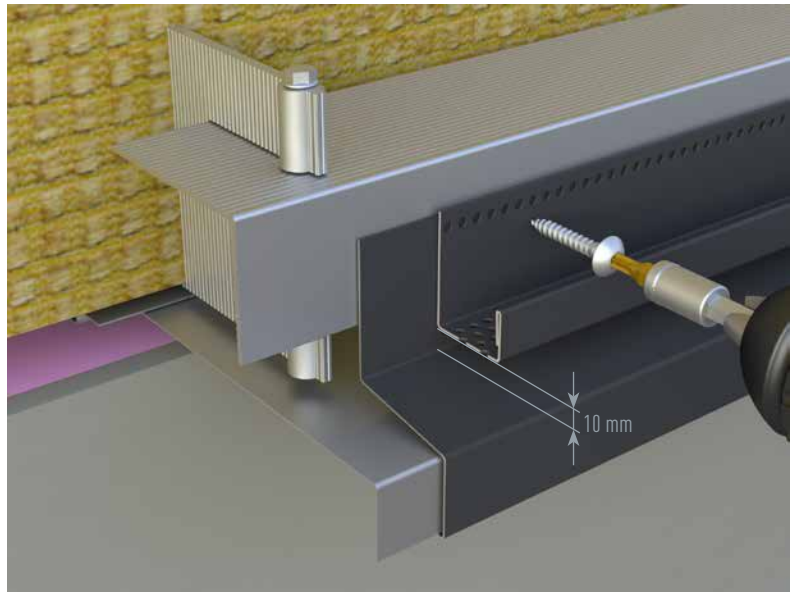


Figure 72 · Starter detail

A precise installation is important, as this essentially determines the appearance of your façade. The more accurately the profile is measured and then installed, the easier it will be for you to complete the installation correctly and professionally. Check that the back ventilation remains unobstructed.

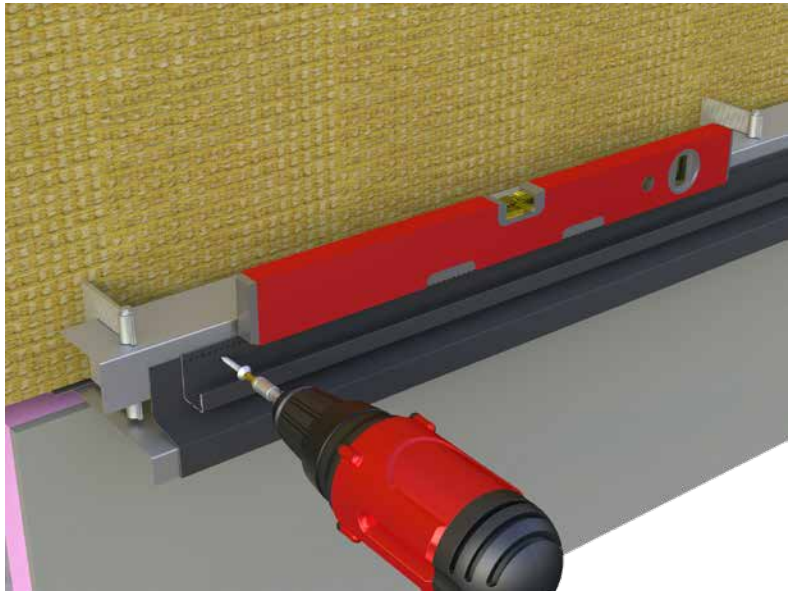


Figure 73 · Starter detail

Ensure that the installation is free of tension by mounting the substructure profile to the substructure using a clear arrangement of fixed and sliding points.

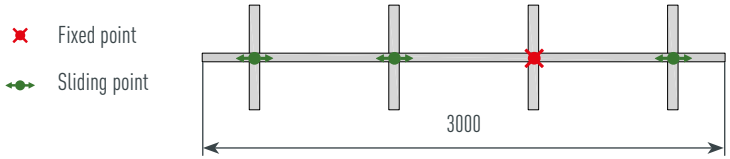


Figure 74 · Arrange fixed and sliding point for starter profile and perforated starter profile

At a fixed point, the drilling screw is screwed directly through the starter profile or perforated starter profile. To create a gliding point, use slotted hole punch pliers to punch the required slot.

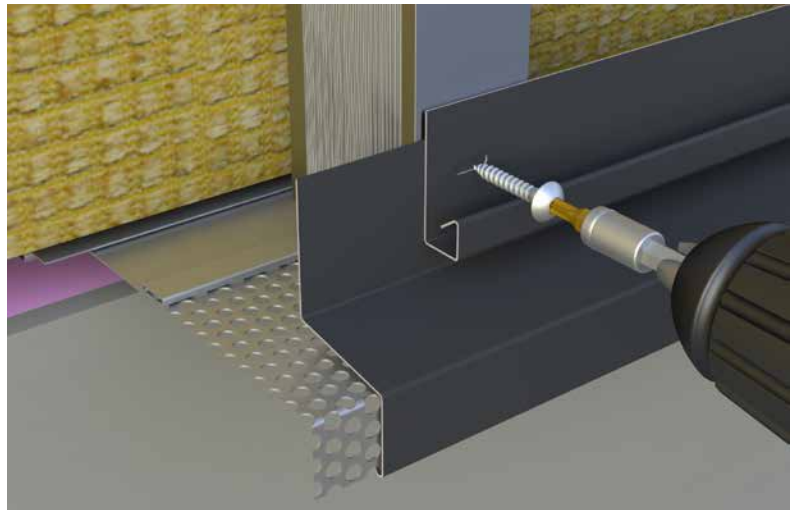


Figure 75 · Starter detail

When installing the starter profile, pay particular attention to ensuring that the position of the screws is not too deep, so that the siding, siding.X and perforated siding can be easily pushed into place and installed.

Figure 76 · Fastening misaligned starter profile

Figure 77 · Fastening misaligned starter profile

NOTE

Remove all metal shavings and soiling before inserting the siding, siding.X and perforated siding into the starter profile or perforated starter profile so that the concealed groove/spring catch can be interlocked without tension.

For longer building dimensions, you must not join the starter profiles and perforated starter profile together due to material expansion. Maintain a spacing of 5-10 mm for material expansion (depending on the length of the starter profile).

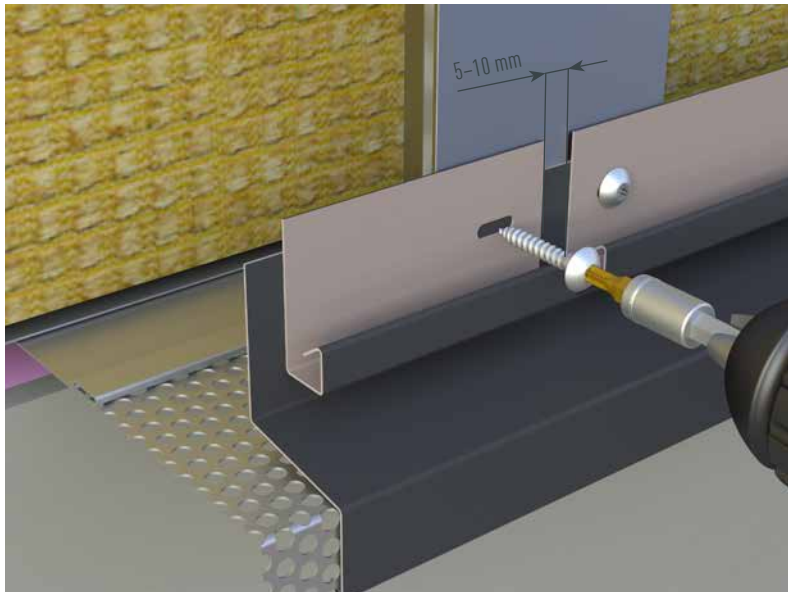


Figure 78 · Join starter profile und perforated starter profile

INTERNAL AND EXTERNAL CORNER

1 HORIZONTAL INSTALLATION

To install the internal or external corner, prepare the substructure for a horizontal profile installation. To install the internal or external corner profiles, you must first connect the vertical substructure using an edge stiffening bracket made from an aluminium sheet 2 mm in thickness. Take account of the support profiles when installing the actual substructure itself in order to position the material thickness of the edge stiffening bracket closer to the inside, so as to guarantee that the substructure is even.

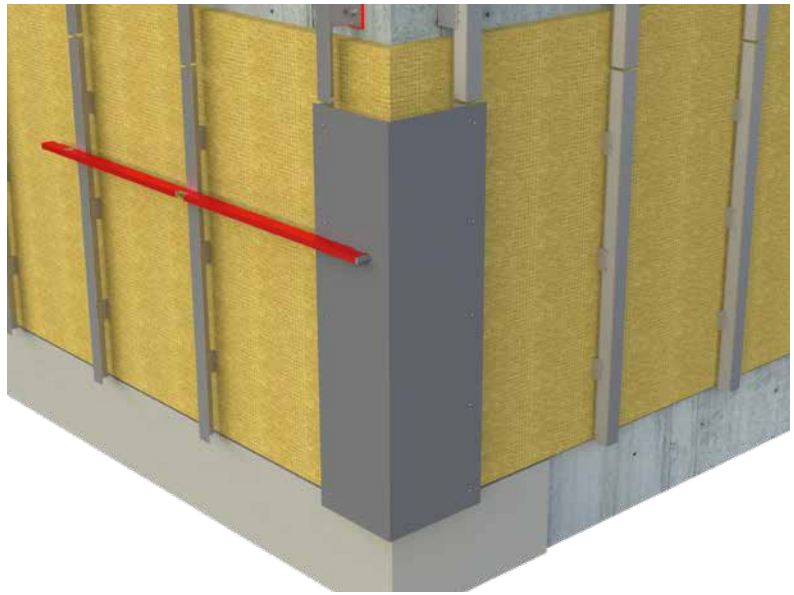


Figure 79 · External corner horizontal siding

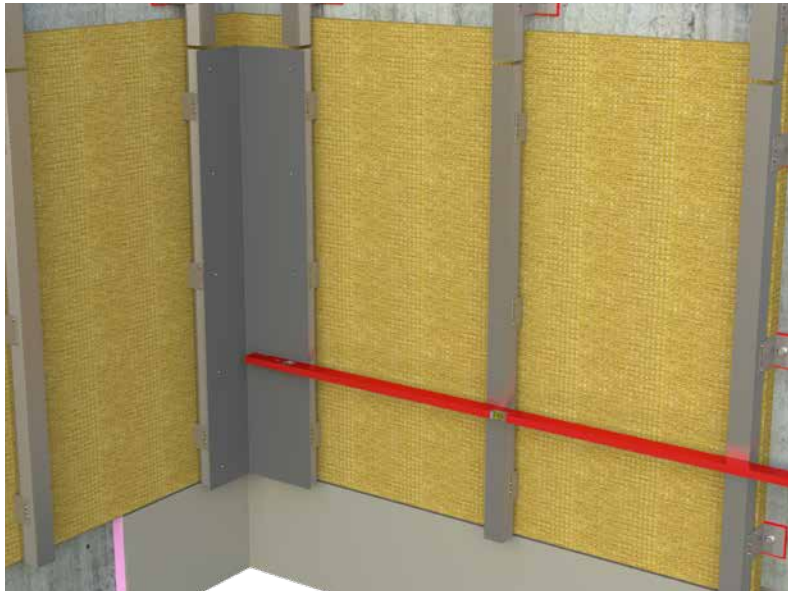


Figure 80 · Internal corner horizontal siding

External or internal corner flashing can then be installed and fixed to the aluminum support. Please ensure a plumb-vertical installation and pay attention to the positioning of fix and sliding points.

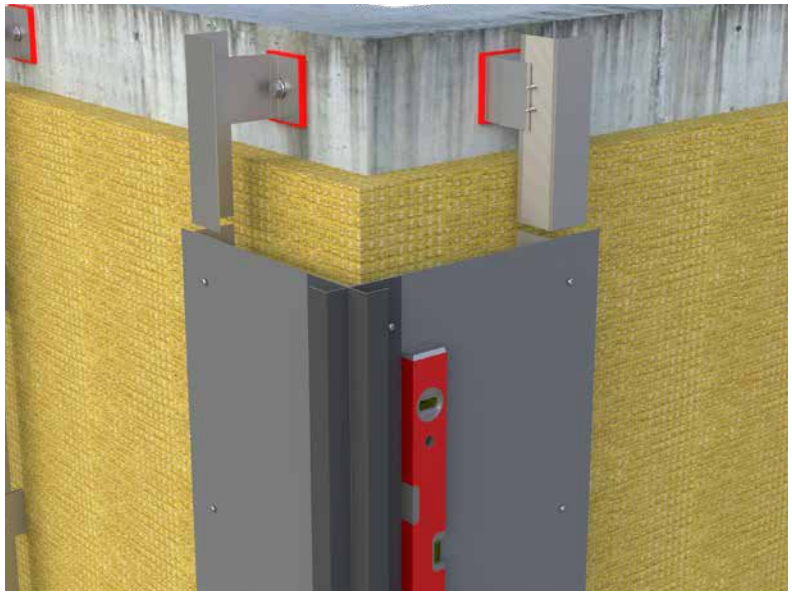


Figure 81 · External corner horizontal siding

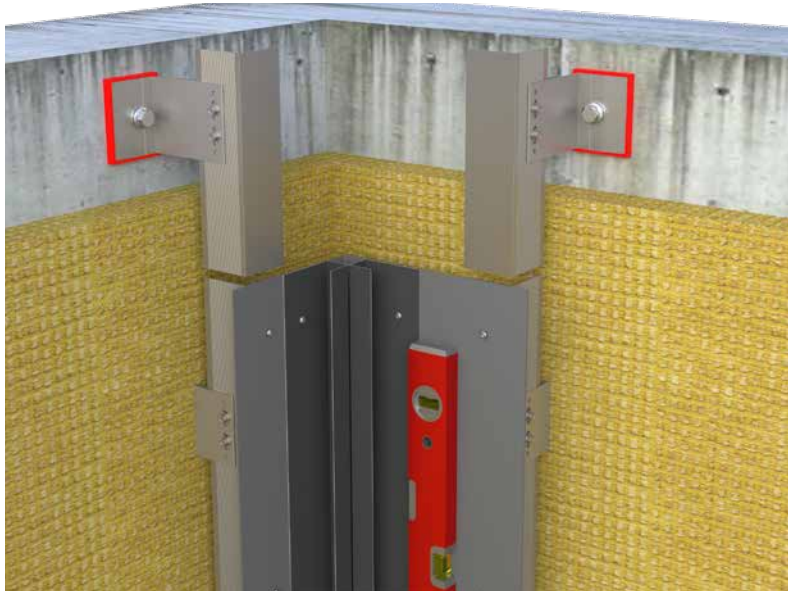


Figure 82 · Internal corner horizontal siding

Expansion gaps between the rails must be taken into account. Expansion gaps should be at least 5 to 10 mm.

2 VERTICAL INSTALLATION

Vertically installed substructures must not join at corners; an expansion gap of approx 15 mm should be provided. Fix and sliding points should be considered to allow for thermal movement.

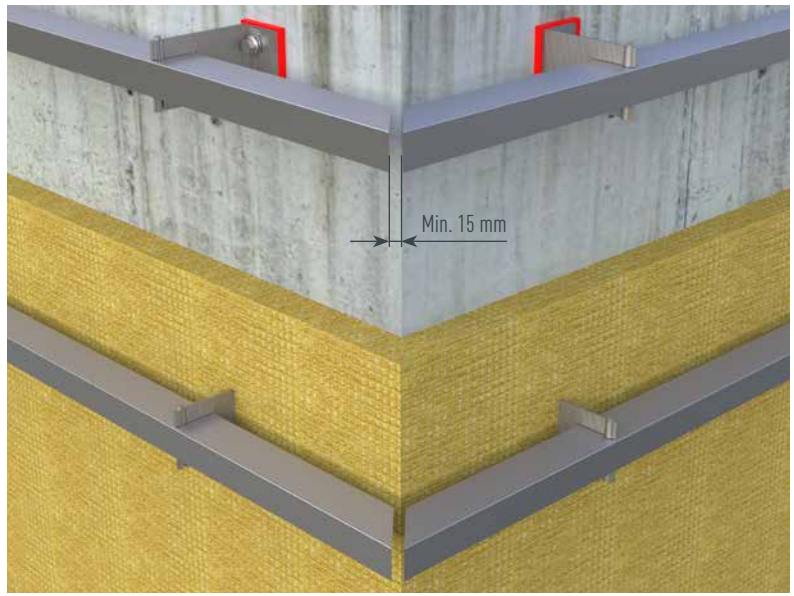


Figure 83 · External corner vertical siding

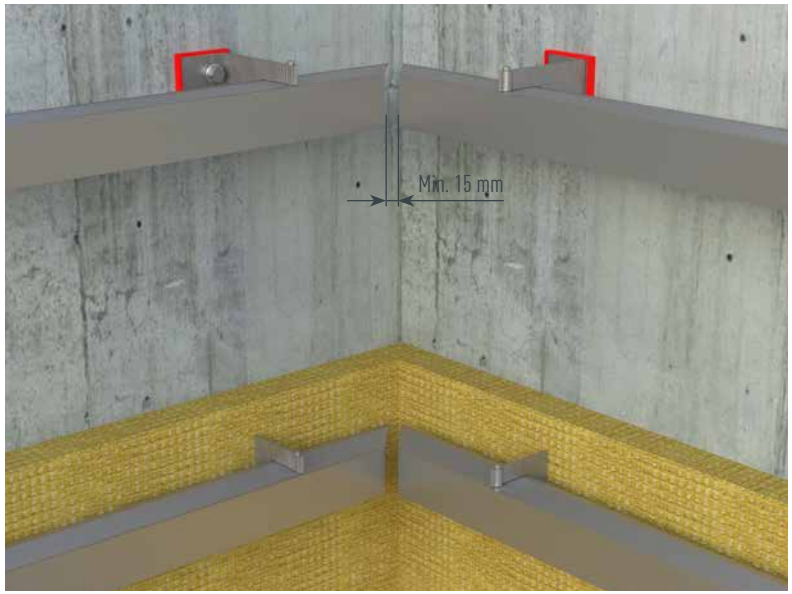


Figure 84 · Internal corner vertical siding

ABUTMENT DETAIL

Pocket profiles are used for both horizontal and vertical cladding in order to hide cutting edges. Maintain an approx 10 mm gap to allow thermal movement. If sidings, sidings.X or perforated sidings must be shortened to make them fit, it is highly recommended to make a stop end for greater rigidity.

NOTE

When installing the pocket profile, ensure that it is imperveous to heavy rain (sealing tape + silicone).

Figure 85 · Abutment detail

HEAD DETAIL

In order to allow a substantial airflow, an opening must be provided at the top.

Install a perforated flashing with an approx 90 degree termination for greater stability.

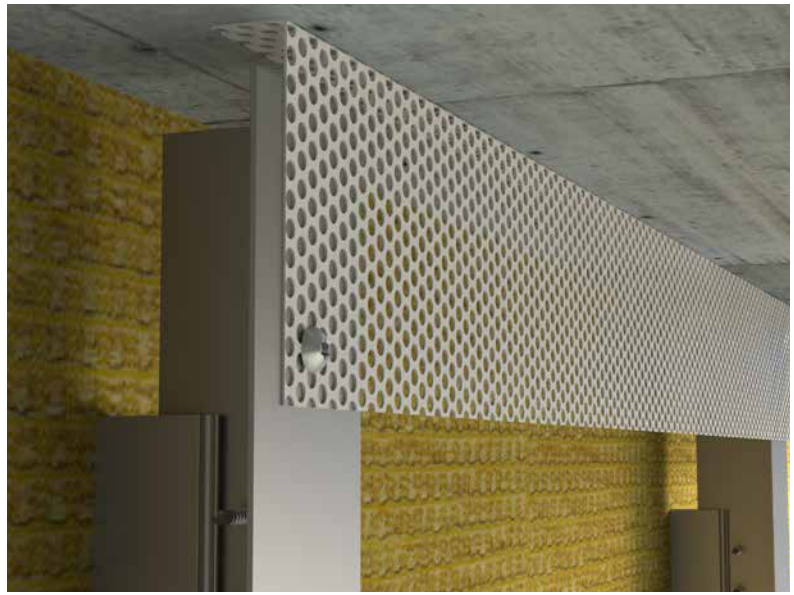


Figure 86 · Head detail

For neat abutment detail, it is necessary to trim the last Siding vertically to make it suit the required dimensions. In order to install the siding, siding.X or perforated siding without a fixing strip, an additional flashing strip is required. First mount the mounting bracket to the substructure and then fasten the shortened siding to the mounting bracket using PREFA patent rivets.

Figure 87 · Head detail horizontal siding

NOTE

As an alternative to a PREFA patent rivet, you can also glue the siding to the mounting bracket.

During installation, pay attention to the arrangement of fixed and sliding points so that the material can expand freely.

In the case of vertical siding, install a pocket profile instead of a mounting bracket.

Figure 88 · Head detail vertical siding

T-PROFILE/JOINT

In particular, make sure that the line and alignment are maintained after gaps, e.g. in the case of T joints. Therefore, we highly recommend to chalk horizontal control lines at regular intervals.

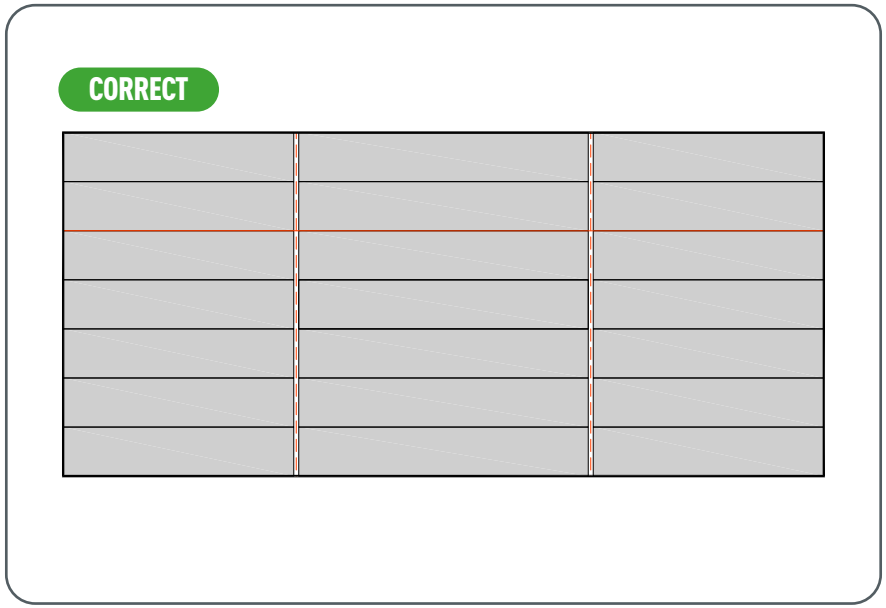


Figure 89 · Flush installation

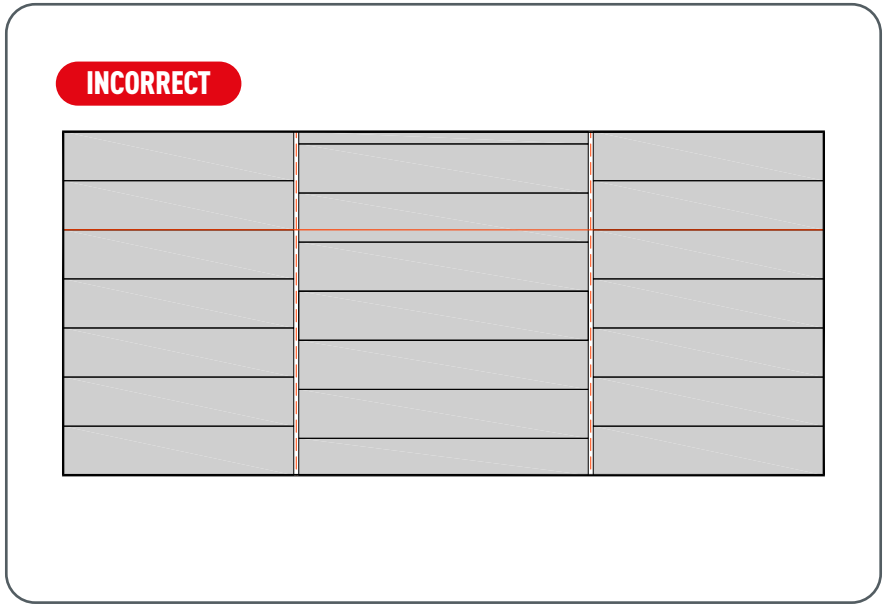


Figure 90 · Misaligned installation

T-profiles/joints must be installed on vertical substructures.

Figure 91 · Installation with T-profile

Vertical butt joints are not recommended for technical and aesthetic reasons. Also, the maximum allowed overhang is mostly exceeded and there is a great risk of unevenness. Butt joints are not recommended from a technical and visual standpoint.

Figure 92 · Butt joint is not recommended

WINDOW DETAILS

In the first step, a perforated flashing and a lining plate should be installed. please ensure an unobstructed airflow. Check that the air outlet of the rear ventilation remains unobstructed.

Figure 93 · Installation of perforated flashing and lining plate

Next, the windowsill can be prepared to required dimensions and installed. The pocket trims are subsequently ready to install.

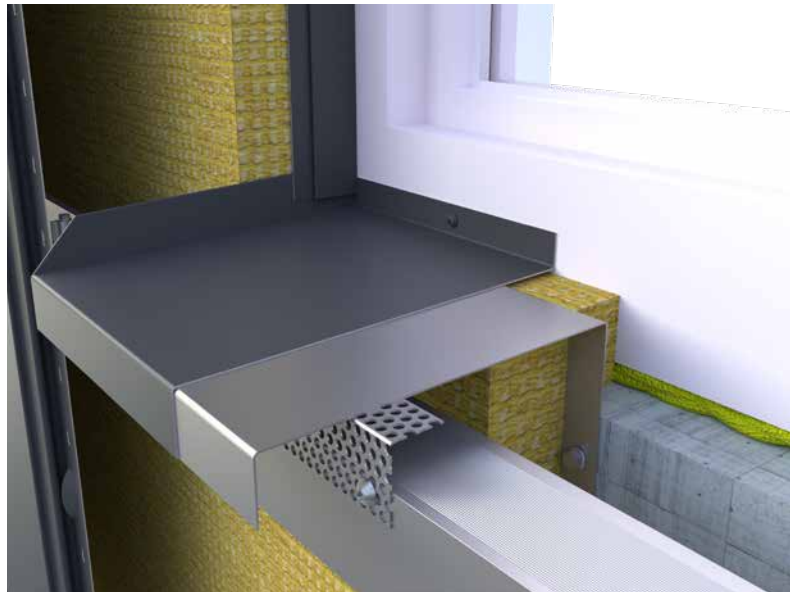


Figure 94 · Installation of windowsill

NOTE

When installing the windowsill to the window frame, ensure that it is imperveous to heavy rain. Also observe the guidelines of the window manufacturer.

Figure 95 · Windowsill drop

NOTE

The windowsill must have a gradient of at least 3°. Observe the national requirements.

Then the fixing brackets for the soffit plate are screwed into the substructure on the left and right of the window. At the same time, the connector strips for the soffit plate and the connector strips for the window lintel are fastened to the window frame or brickwork.

NOTE

If necessary, extend the pocket profile to the next drainage level so that any water entering can be safely drained away.

Figure 96 · Installation of pocket profile

Prepare jamb flashing to site requirements.

The bottom of the jamb flashing must be notched to suit windowsill dimensions.

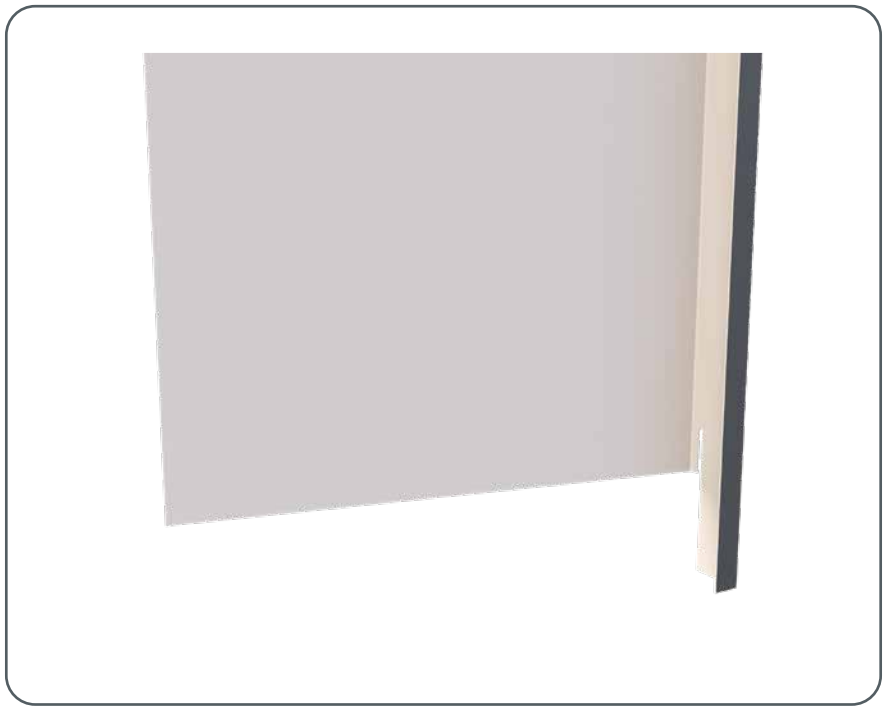


Figure 97 · Bottom detail jamb

Prepare the top detail jamb and make a 90 degree termination for better stability.

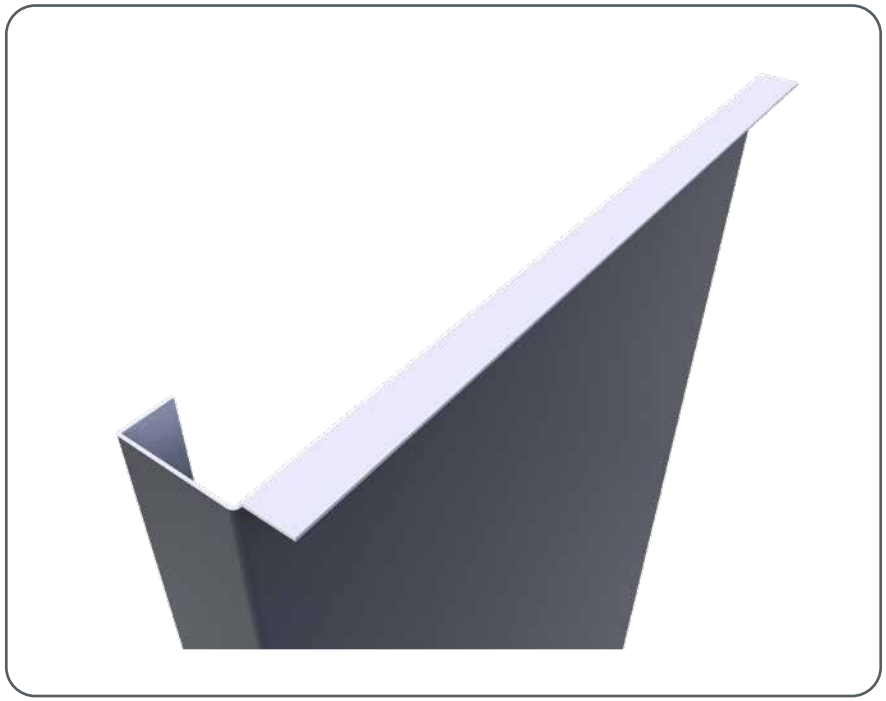


Figure 98 · Top detail jamb

Join the jamb flashing with the pocket profile and close the seam.

Figure 99 • Installation of jamb flashing

Next, the wind head detail can be prepared. Follow the images below to prepare a square stop end on both sides of the drip edge.

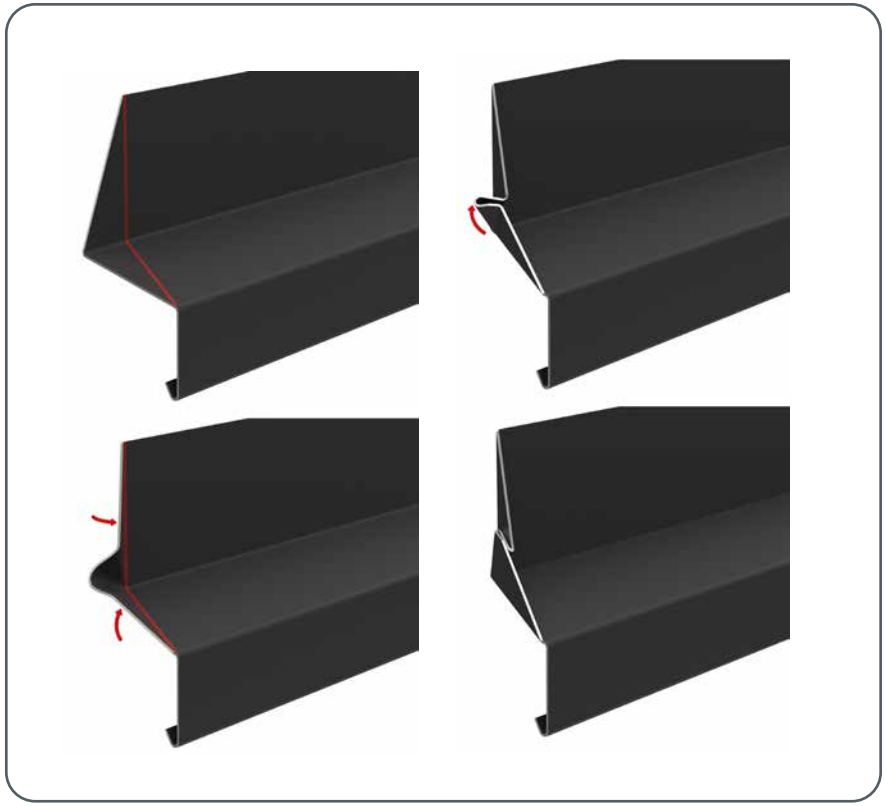


Figure 100 • Drip edge head detail

Prepare a head flashing according to existing dimensions and install it in conjunction with the drip edge. The rain guard is hung on the upper soffit plate.

Figure 101 · Installation of drip edge

Drip edge and perforated profile are both fixed to the substructure. For unobstructed airflow, ensure a minimum 10 mm gap between drip edge and perforated profile. Use spacers to make it parallel.

Figure 102 · Installation of perforated profile

NOTE

For a horizontal installation, the incoming air is provided via a folded perforated sheet in the window lintel rather than via a perforated starter profile.

If all sides of the window frame have been prepared, the installation of sidings can continue. Cut out each part of the siding that overlaps the window frame.

NOTE

In order to increase the rigidity of the siding, it is recommended to manufacture a folded edge or ripening. Make sure that there is an adequate air inlet.

Figure 103 · Window head

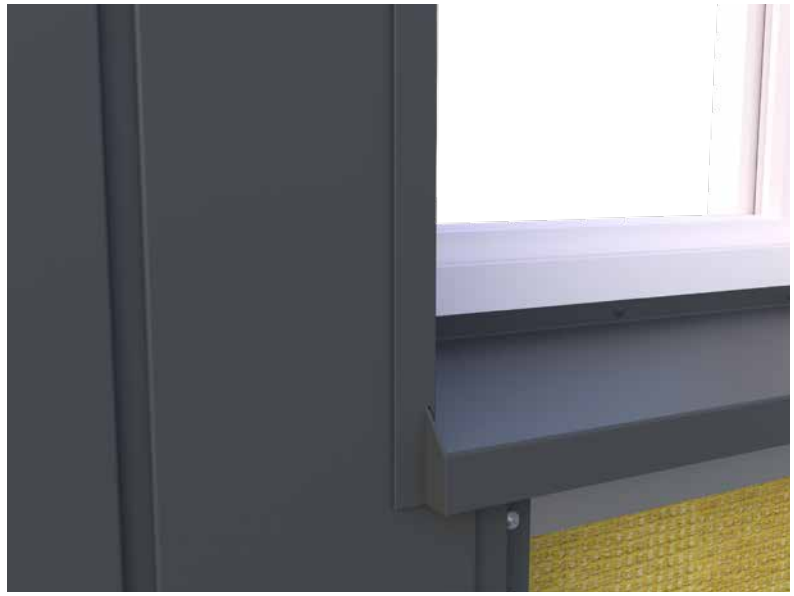


Figure 104 · Window jamb

NOTE

It is highly recommended to mark dimensions around the window in order to avoid misalignment.

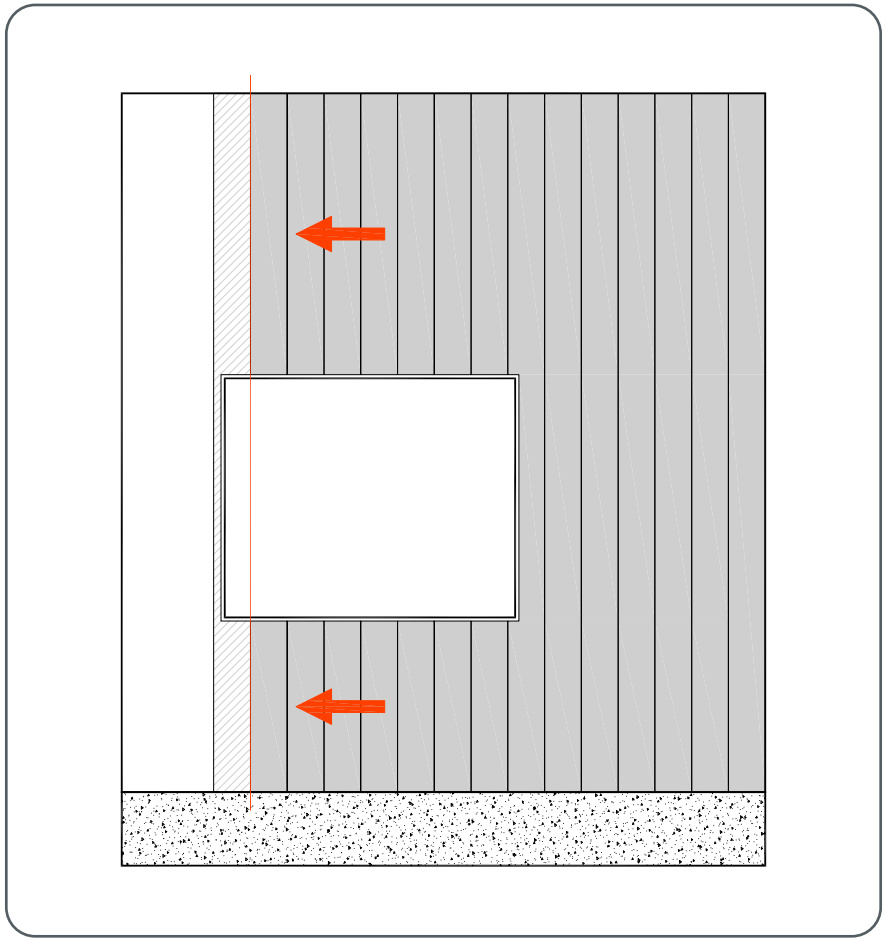


Figure 105 · Siding for vertical window abutment

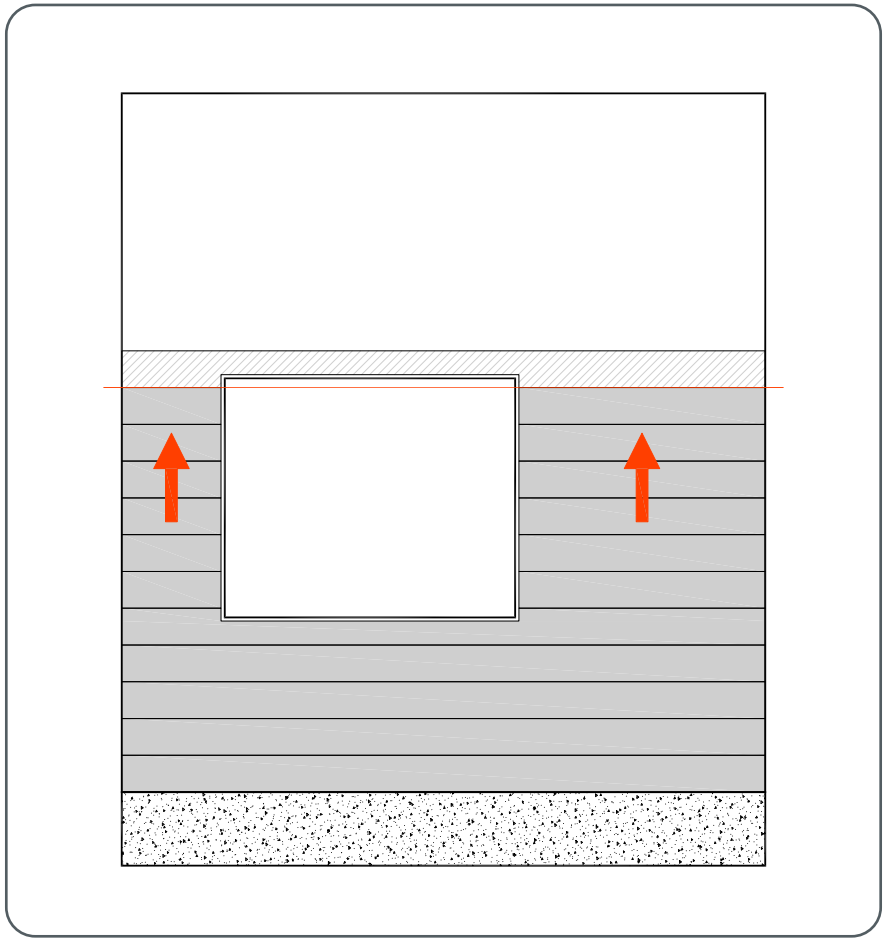


Figure 106 · Siding for horizontal window abutment

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