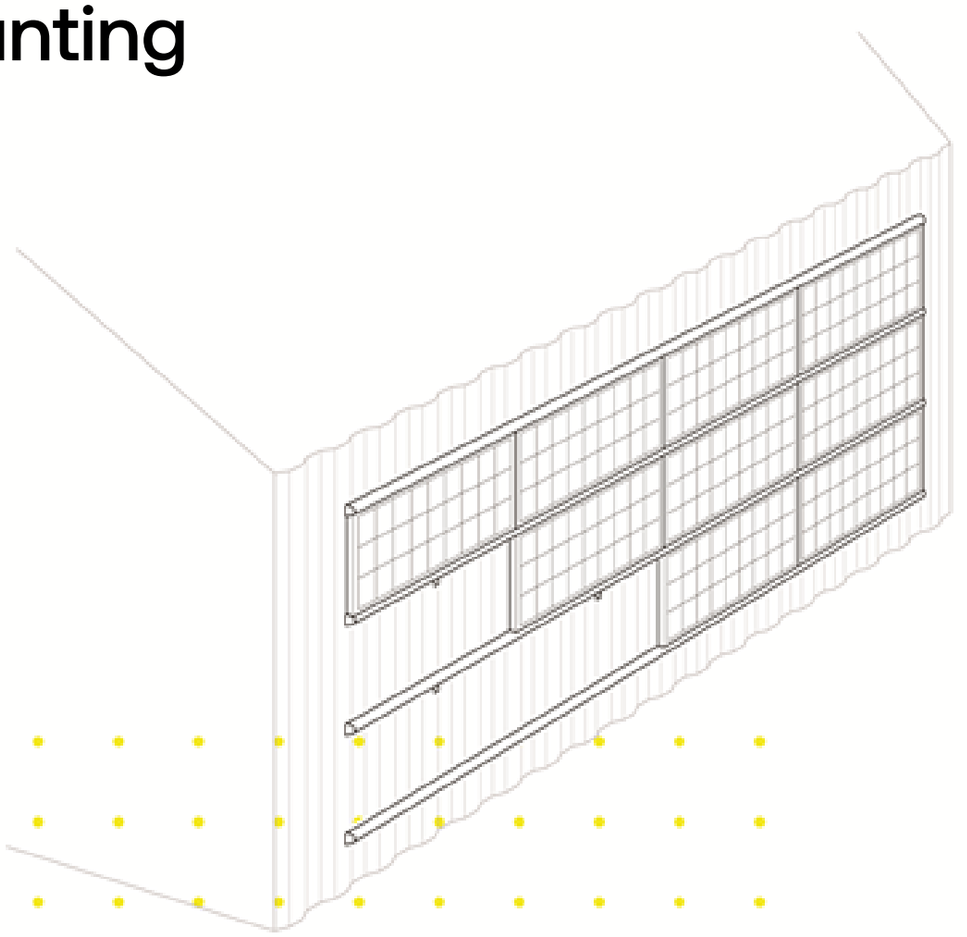
Installation manual

Inlay mounting system for façade mounting



Aelex

The original of this manual is written in Dutch.

June 2025 | Version 3.0

Disclaimer

The instructions and safety provisions according to this installation manual must be observed with care during installation of any Aelex system. Failure to comply with the requirements stipulated in this document will void the customer's warranties, as is also indicated in the applicable general sales and delivery terms of Aelex; Aelex cannot be held liable for any damage on any grounds whatsoever in this case.

Table of contents

1 Introduction **4**

1.1 User description 4

1.2 Explanation of safety warnings 4

1.3 Instructions on use of this manual 4

1.4 Where to find documentation and information 5

1.4.1 Internet 5

1.4.2 Other documentation 5

1.4.3 Support and service 5

2 Safety notices **6**

2.1 General safety notices 6

2.2 Installation safety 6

2.3 Safety and your environment 7

2.4 Safety concerns regarding façade stability and condition 7

2.5 Safety during maintenance and repair 8

3 Description of the Aelex inlay mounting system for façade mounting **9**

3.1 Intended use and reasonably foreseeable misuse 9

3.2 Technical data 10

3.3 Supplied parts 11

3.3.1 Parts enclosed for mounting with flat base profiles and proficlicks 11

3.3.2 Enclosed parts for mounting with double proficlicks 12

4 Preparations **13**

4.1 Storage and transport 13

4.2 Unpacking the system 13

4.3 Installation conditions 14

5 Installation of the Aelex inlay mounting system for façade mounting 15
5.1 Important information on wind zones and wind loads 15
5.1.1 Additional installation requirements for wind zones and wind loads in the Netherlands 15
5.1.2 Additional installation requirements for wind zones and wind loads in the Belgium 16
5.2 Required tools 16
5.2.1 Required tools for mounting with basic profiles and proficlicks 16
5.2.1.1 Required tools for mounting on steel sheet piles 16
5.2.1.2 Required tools for mounting on other façades: 17
5.2.2 Required tools for mounting with double proficlicks 17
5.3 Required mounting material (optional, to be provided by the installer) 18
5.3.1 Required mounting material for mounting with basic profiles and proficlicks 18
5.4 Taking system measurements 18
5.4.1 Performing system measurements on the façade 18
5.4.1.1 Taking system measurements for mounting with base profiles and proficlicks 20
5.4.1.2 Measuring the system for mounting with double proficlicks 21
5.4.2 Sawing profiles to size 23
5.5 Mounting the proficlicks 24
5.5.1 For mounting with basic profiles and proficlicks 24
5.5.2 For mounting with double proficlicks 30
5.6 Connecting and mounting the cover and inlay profiles 34
5.6.1 Connecting the cover and inlay profiles (if required) 34
5.6.2 Mounting the cover and inlay profiles 38
5.6.3 Securing the cover and inlay profiles with the IP bender 40
5.7 Mounting Aelex damping strips 41
5.8 Mount the securing cables (optional) 43
5.9 Mounting the optimizer clips 44
5.10 Placing the PV panels 46
6 Maintenance and repair 48
7 Troubleshooting 49
8 Removal 50
8.1 Removal of the product 50
8.2 Waste disposal 50

1 Introduction

This installation manual describes installation of the Aelex inlay mounting system on a façade. This manual is to support the installer in safe installation of the Aelex as intended.

Read the manual carefully before starting the installation. Observe all applicable safety requirements while installing the Aelex.

1.1 User description

This document is intended for professional Aelex installers.

The Aelex inlay mounting system should only be installed and serviced by authorised and competent installers who have read and understood the content of this installation manual.

1.2 Explanation of safety warnings

⚠DANGER

Danger indicates a danger with a high level of risk that will result in death or serious injury if not avoided.

⚠WARNING

Warning indicates a hazard with a medium level of risk that may result in death or serious injury if not avoided.

⚠CAUTION

Caution indicates a low-risk hazard that may result in minor to moderate injury if not avoided.

NOTICE

Notice marks information that is considered important but does not imply danger.

INFO

Info indicates useful information.

1.3 Instructions on use of this manual

You must read and understand this manual and the safety notices before installing and using this product. Failure to do so may lead to serious injury or death.

The Aelex inlay mounting system is also referred to as *Aelex*, the *system*, or the *product* in this manual.

Observe all instructions. This prevents the occurrence of fires, explosions, electric shocks, or other hazards that may lead to property damage and/or serious or fatal injuries.

The product must only be installed by persons who have fully read and understood the content of this user manual.

Keep all safety provisions and instructions for future use and pass them on to any subsequent users of the product.

The manufacturer cannot be held responsible for any cases of property damage or injury caused by improper handling or non-compliance with the safety notices. This will render the warranty void. This product is subject to the *General installation terms of Aelex* and the *General terms and conditions of Alius*.

1.4 Where to find documentation and information

1.4.1 Internet

The latest version of the documentation is available at: www.Aelex.nl

1.4.2 Other documentation

The following documentation is available to supplement this installation manual:

- List of certifications
- General terms and conditions of Alius
- General installation terms of Aelex

1.4.3 Support and service

For information on special tools, materials, service, technical support, ordering user manuals or for other information and/or questions, contact:

Aelex

Meerheide 101
5521 DX Eersel
Netherlands

Phone: +31 (0)850 208 538
Email: info@Aelex.nl
www.Aelex.nl

2 Safety notices

⚠DANGER

READ AND UNDERSTAND THIS MANUAL AND THE SAFETY NOTICES BEFORE USING THIS PRODUCT. FAILURE TO FOLLOW INSTRUCTIONS MAY LEAD TO SERIOUS INJURY OR DEATH.

2.1 General safety notices

+ Always use the Aelex configurator to design the inlay mounting system. Always use the technical drawing and sawing list output by the Aelex configurator for installation. The Aelex configurator can be found at Aelex.nl. The warranty claim shall lapse if you do not use the Aelex configurator to design your system.

2.2 Installation safety

+ Every installer must ensure their own safety and health and that of any other persons involved to the best of their ability in their actions at the workplace, in accordance with their training and the instructions provided by the employer.
+ Work equipment or any other installed protective devices must not be needlessly changed or removed or used improperly.
+ Report any detected hazards to health or safety to the employer for whom you are performing the work.
+ Always use the proper tools for the work at hand.
+ Installation of Aelex systems should be performed by qualified technical personnel. Professional installation is a requirement for a long service life and greater system efficiency.
+ Any electrical work must be performed by competent persons in compliance with locally applicable legislation.
+ Always be attentive and keep your mind on your work. Do not install the product if you are distracted, have impaired consciousness, or are under the influence of drugs, alcohol, or medication. Even a single moment of inattention may bring about serious accidents or injuries during installation.
+ Always observe the local standards, rules, and provisions on safe work and correct and safe installation.
+ **Risk of injury.** Always wear working gloves when handling the product. The product may have sharp edges.
+ **Risk of burns or frostbite**. Always wear working gloves when handling the product. The aluminium parts, such as the profiles, can become very hot or cold, resulting in burns or frostbite.

- **Risk of injury.** Always wear a hard hat while handling the product. Observe your surroundings when handling and moving the long profiles.
- **Risk of injury.** Always wear hearing protection, safety shoes, and safety goggles when working with a grinder.
- Always wear adequate protective clothing and personal protective equipment to match the environment and conditions where the product is to be installed during installation, including work gloves, hard hat, hearing protection, and safety goggles.
- Always use fall protection and, if necessary, safety nets and edge protection while working on roofs.
- Never leave out any system parts. Always install and set up all parts as described in the installation instructions. Do not forget any parts in the process. Missing parts may impair system function.
- Never install a system that is subject to any damage or manufacturing defects, such as bent roof hook clips or improperly tapped holes. Contact the supplier in this case.
- Strictly observe the installation instructions when connecting two or more inlay profiles to allow for dilatation (thermal expansion and contraction).
- Attach the inlay and cover profiles to the proficlicks strictly in accordance with the expansion table.
- Secure all individual inlay and cover profiles using the IP bender to prevent shifting due to thermal expansion and contraction.
- Never place any inlay mounting system over a gutter or ridge and do not let it to protrude beyond the roof surface or façade.
- Always check that the PV panels to be installed correspond to the project plan. The buyer/installer of the system is responsible for ensuring this.
- Verify and validate that the system has been delivered completely and properly assembled. The buyer/installer of the system is responsible for verification and validation of the system.

2.3 Safety and your environment

- Always contact the supplier for advice before installing the system in situations where tall buildings or objects (such as wind turbines) that may affect wind pressure are located nearby.
- Recalculate the project and make any necessary adjustments if any data, information, and/or environmental factors turn out to deviate from your assumptions or the project report before, during, or after installation.
- Do not install the system in any coastal areas if the distance from open water is less than 500 m. This would accelerate corrosion caused by salt water on the system.

2.4 Safety concerns regarding façade stability and condition

- Check that the façade is sufficiently flat horizontally. Otherwise, the cover and inlay profiles cannot be inlayed into the proficlicks.
- Check the condition and strength of the façade beforehand. The façade must be strong enough to support the weight of the system, including PV panels, as well as any wind and snow loads. Do not exceed the façade's load reserve in any one location and overall.
- Verify façade stability beforehand and adjust the façade and/or façade structure where necessary.
- Have the façade load recalculated by a qualified technician under consideration of applicable regulations beforehand. NEN 6702, NEN 7250, NEN 1991-1-4, and NEN 1991-1-1-3 are particularly relevant.
- Acquire the insurer's and structural engineer's prior approvals for:
  - the load on the building caused by the additional weight of the system with PV panels;
  - the load on the building caused by the changed geometry of the roof plane;
  - the load on the building caused by dynamic wind pressure and precipitation;
  - the interaction between the thermal effects of the building and the system with PV panels;
  - the consequences of any movement of the façade and the system with PV panels.

2.5 Safety during maintenance and repair

- Maintenance and repair of Aelex systems must be performed by qualified technical personnel.
- No changes to the system and technical modifications are permitted. They will render the warranty void.
- Only use genuine accessories and spare parts.

3 Description of the Aelex inlay mounting system for façade mounting

3.1 Intended use and reasonably foreseeable misuse

Intended use

+ The Aelex inlay mounting system as described in this installation manual should only be used: for installation of PV panels on stone, concrete or wooden façades, steel sheet piling façades[u] and on sandwich façade panels.

Improper use

+ This product must not be installed:
  + by any private individuals without proper technical qualification;
  + in coastal areas closer than 500 m to open water;
  + without using the Aelex configurator;
  + without calculation of the façade load by a qualified technician;
  + without determination of the anchoring method for the flat base profiles by the client or external expert.
  + without the insurer's and structural engineer's consent;
  + if the data, information, and/or environmental factors do not fully match the assumptions or the project report;
  + if the PV panels do not match the PV panels in the project plan;
  + in salty, humid environments;
  + in acidic environments or environments that contain chlorine.
+ This product should only be installed and used for the application described in this manual. Any other uses are unprofessional and considered dangerous. The manufacturer cannot be held liable for any damage resulting from errors, non-intended, or unprofessional use of the product.

3.2 Technical data

Parameter	Value
Product name	Aelex inlay mounting system for façade mounting
Application	Inlay mounting system for placing PV panels on stone, concrete or wooden façades, steel sheet piling façades and on sandwich façade panels
Type	Aelex
Technical service life	20 years
Material	Aluminium, stainless steel, and plastic
Weight	+ Depending on project + System parts are packed in packages of up to 25 kg
Profile lengths	Maximum 6.2 m per profile
Temperature range for storage	+10 °C to +60 °C
Relative humidity before storage	0% to 95%

3.3 Supplied parts

NOTICE

Depending on the façade, the Aelex inlay mounting system for façade mounting can be mounted with basic profiles and proficlicks or with the double proficlicks.

3.3.1 Parts enclosed for mounting with flat base profiles and proficlicks

The Aelex configurator will calculate the supplied quantities of each part depending on system configuration.

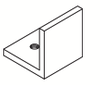
The Aelex inlay mounting system for mounting with flat base profiles and proficlicks comprises the following components:


Flat base profile

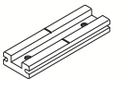

Cover profile (CP)


Inlay profile (IP)

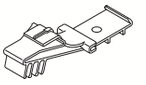

Proficlick


Inlay profile end corner (IP end corner)

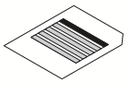

Inlay profile cover (IP cover)

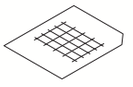

Inlay profile connector


Aelex damping strip


Optimizer clip


Securing cables (optional)


Sawing list *


Technical drawing *

* The *Aelex configurator* will provide a technical drawing and a sawing list once you have finished planning your project. These are not delivered with the system.

3.3.2 Enclosed parts for mounting with double proficlicks

The Aelex configurator will calculate the supplied quantities of each part depending on system configuration.

The Aelex inlay mounting system for mounting with double proficlicks comprises the following components:

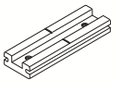

Cover profile (CP)

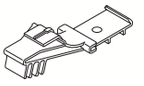

Inlay profile (IP)


Double proficlick (two mounting points)


Inlay profile end corner (IP end corner)


Inlay profile cover (IP cover)

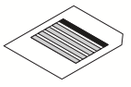

Inlay profile connector

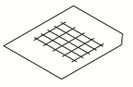

Optimizer clip


Rivet (6,3 × 23 mm)


Aelex damping strip


Securing cables (optional)


Sawing list *


Technical drawing *

4 Preparations

4.1 Storage and transport

⚠WARNING

- **Never place any objects on or against any parts of the system to prevent deformation or damage. Always place the parts on a flat surface.**
- **Particular care is required when handling black profiles to avoid damage to the coating.**
- **Always ensure that the system's parts are properly secured to prevent sliding of the load and damage during transport.**
- **Use only approved lifting gear suitable for the material to be lifted and moving to the roof or scaffold.**
- **The profiles must never be submerged in water or come into in contact with any moisture during storage. Observe the temperature and humidity requirements during according to the table under *Technical data*.**

4.2 Unpacking the system

⚠WARNING

Avoid damage to the profiles and parts:

- **Do not remove the protective packaging until the system is installed.**
- **Do not use any knives or other sharp objects to open or remove the packaging materials.**

When unpacking the system:

1. Remove all transport and packaging materials.
2. Dispose of all transport and packaging materials in accordance with the instructions in *8.2 Waste disposal*.
3. Check the content of the delivery against the project plan. Contact the supplier if any parts are missing.
4. Check the product for damage. Contact the supplier without installing the system if there is visible damage or any manufacturing defects.
5. Check that the dimensions of the supplied parts match the sawing list and the technical drawing.

4.3 Installation conditions

⚠WARNING

- **Do not install the inlay mounting system in any strong wind, snow, wet, or slippery conditions, on wet (slippery) roof surfaces, with insufficient light, subject to extreme heat or any other conditions that make safe working impossible.**
- **Always use fall protection and, if necessary, safety nets and edge protection while working on roofs or scaffolds.**
- **Cordon off the area around the workplace to prevent unauthorised persons from entering the work area. Use clear warning signs, barrier tape or construction fences.**
- **Secure tools and materials from falling.**
- **Risk of electric shock. Pay attention to any pipes and wiring during façade work.**

5 Installation of the Aelex inlay mounting system for façade mounting

⚠WARNING

- **The Aelex inlay mounting system should only be installed and serviced by authorised and competent installers who have read and understood the content of this installation manual.**
- **The system must not be installed if any damage or manufacturing defects such as bent roof hook clips or improperly tapped holes are present. Contact the supplier in this case.**

5.1 Important information on wind zones and wind loads

⚠WARNING

- **Always make sure that the façade can bear the extra load. This should be done by the client or an external expert.**
- **Ensure that the anchor points can withstand a tensile force of at least 1 kN, unless otherwise specified. A wind load calculation is always required before façade mounting. The positions and number of anchor points of the system at the façade were calculated based on a tensile force per anchor point of 1 kN.**

5.1.1 Additional installation requirements for wind zones and wind loads in the Netherlands

Additional conditions in accordance with NEN-EN 1991-14 apply to PV systems that are installed in coastal areas. Buildings are deemed located in coastal areas if they are less than ten times their height away from water.

Additional requirements when installing the system:

- All buildings that are less than or equal to fifty times the building height away from open water must be reviewed by Aelex.
- Note the maximum building heights for installing a system with PV panels:
  - in wind zone 1: maximum height 10 m;
  - in wind zones 2 and 3: maximum height 15 m.
- Always contact the supplier for advice before installing the system in situations where tall buildings or wind turbines that may affect wind pressure are located nearby.

5.1.2 Additional installation requirements for wind zones and wind loads in the Belgium

Additional conditions in accordance with NEN-EN 1991-14 apply to PV systems that are installed in coastal areas. Buildings are deemed located in coastal areas if they are less than ten times their height away from water.

Additional requirements when installing the system:

- All buildings that are less than or equal to fifty times the building height away from open water must be reviewed by Aelex.
- Note the maximum building heights for installing a system with PV panels:
  - in wind zone 26 m/s: maximum height 10 m;
  - in wind zones 23, 24, and 25 m/s: maximum height 15 m.
- Always contact the supplier for advice before installing the system in situations where tall buildings or wind turbines that may affect wind pressure are located nearby.

5.2 Required tools

5.2.1 Required tools for mounting with basic profiles and proficlicks

5.2.1.1 Required tools for mounting on steel sheet piles

Ensure that the following tools are present:



Screwdriver



Rivet pliers (for 6.3 × 23 mm rivets)



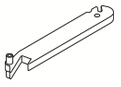
Measuring tape



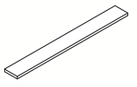
Hex key 3



Steel drill (6.5 mm)



Aelex IP bender



Measuring stick (make your own) with length indication: PV panel height minus 68 mm



Line laser

5.2.1.2 Required tools for mounting on other façades:

Ensure that the following tools are present:


Screwdriver


Impact drill


Torque spanner


Measuring tape

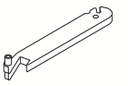

Hex key 3

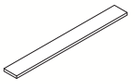

Stone drill *


Steel drill *


Bit Torx 40


Torx 40 cap for the torque spanner


Aelex IP bender


Measuring stick (make your own) with length indication:
PV panel height minus 58 mm


Line laser

* Size depends on selected anchor

5.2.2 Required tools for mounting with double proficlicks

Ensure that the following tools are present:

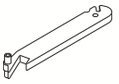

Screwdriver

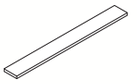

Rivet pliers (for 6.3 × 23 mm rivets)


Measuring tape


Hex key 3


Steel drill (6.5 mm)


Aelex IP bender


Measuring stick (make your own) with length indication:
PV panel height minus 68 mm


Line laser

5.3 Required mounting material (optional, to be provided by the installer)

5.3.1 Required mounting material for mounting with basic profiles and proficlicks

NOTICE

+ The method for anchoring the system in stone/concrete/wood façades, e.g., with chemical or regular anchors, should be chosen by the client or an external expert.
+ Ensure that the system's anchor points on the façade can withstand a tensile force of at least 1 kN, unless otherwise specified.

Ensure that the following mounting hardware is present:



Anchoring for the flat base profiles on the façade *

* To be determined by the client or an external expert.

5.4 Taking system measurements

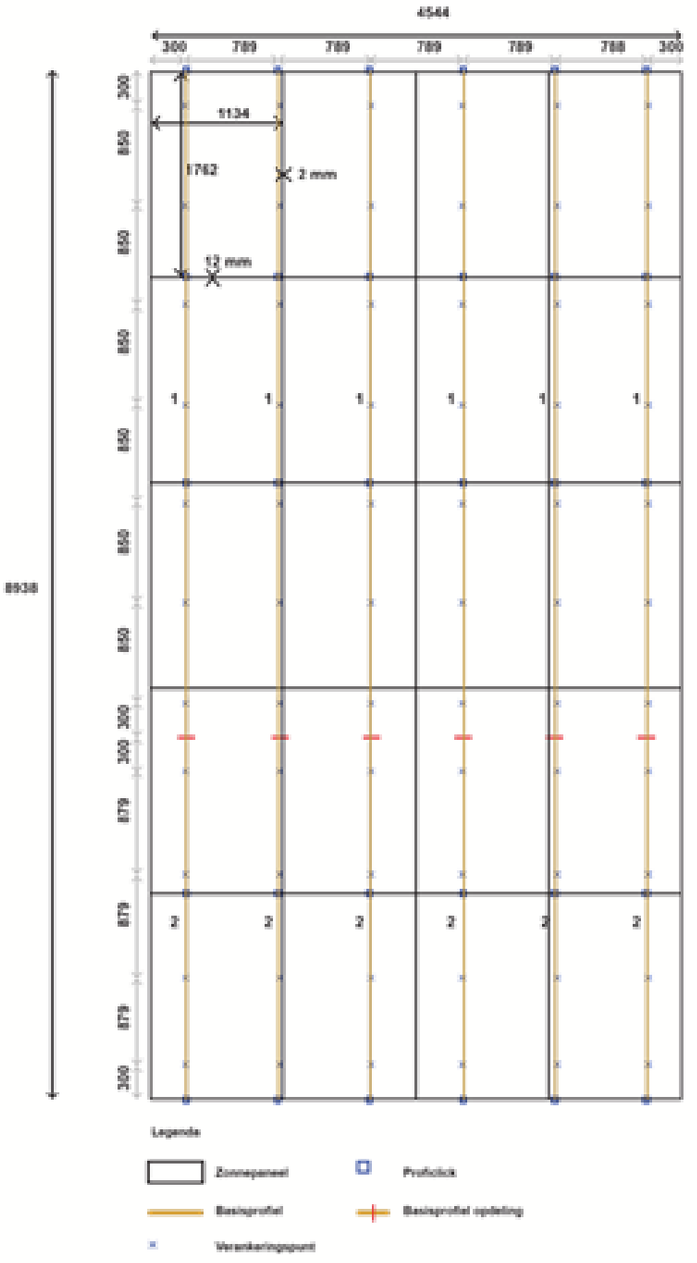
WARNING

Always observe the technical drawing for measuring out the system on the façade. The positions and number of anchor points of the system to the façade have been calculated based on a tensile force per anchor point of 1 kN, unless otherwise specified.

The Aelex configurator will provide a technical drawing and a sawing list once the project is planned out. This is necessary to measure the system and saw any required profiles to the correct lengths.

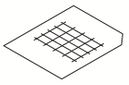
5.4.1 Performing system measurements on the façade

The letters and digits in the technical drawing correspond to the letters and digits in the sawing list. The technical drawing indicates the locations of the respective profiles.

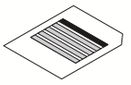


Example of a technical drawing for mounting on a brick/concrete façade

Required parts:



Technical drawing



Sawing list

Required tools:



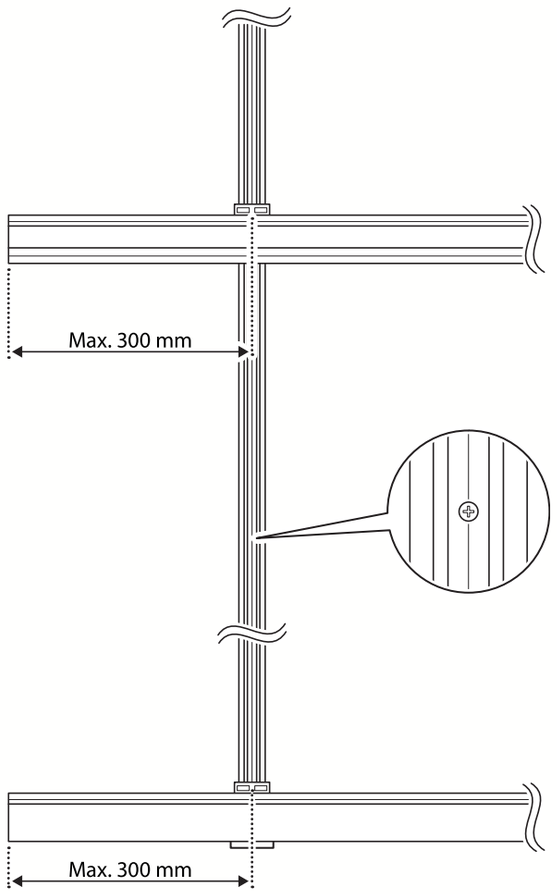
Measuring tape

5.4.1.1 Taking system measurements for mounting with base profiles and proficlicks

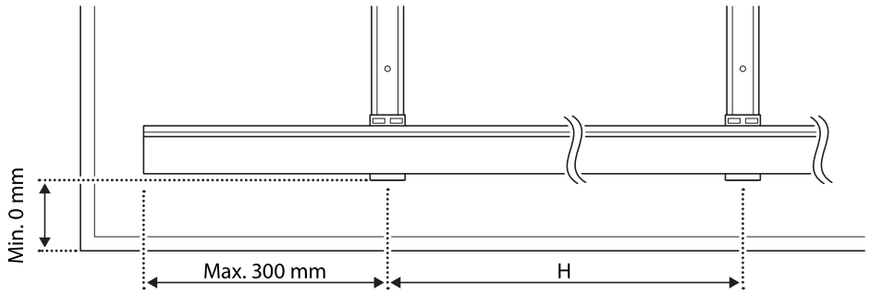
+ Determine the positions of the anchor points and **proficlicks** on the façade.

NOTICE

+ Base profiles should not protrude by any more than 300 mm at the ends, measured from the last anchor point.
+ Inlay and cover profiles may protrude by up to 300 mm at the ends, measured from the proficlick centre.
+ Remember that an inlay profile connector will not fit in the position where a proficlick is located already if cover and inlay profiles are to be coupled.
+ The horizontal distance Ⓗ between the base profiles is indicated in the technical drawing. The precise distance is determined by the wind load calculation. Therefore, always observe the distance indicated in the technical drawing.
+ The minimum distance to the bottom of a steel sheet piling or sandwich wall plate is 0 mm or more, measured from the bottom of the flat base profile. The flat base profile must not project over the gable edge.



Installation with the flat base profile and proficlicks – maximum size by which inlay, cover, and base profiles may project.



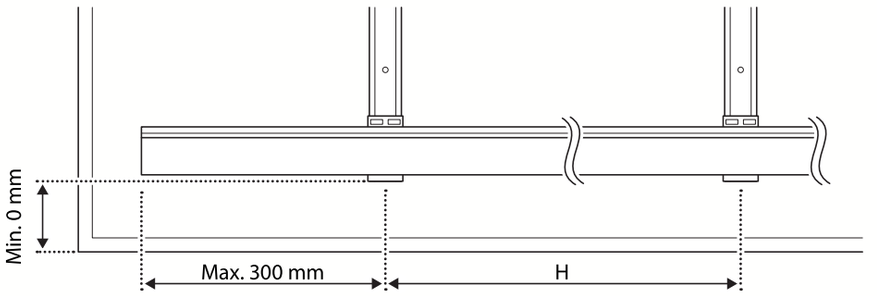
Installation with the flat base profile and proficlicks – maximum and minimum distances. See the technical drawing for exact distances.

5.4.1.2 Measuring the system for mounting with double proficlicks

+ Determine the positions of the proficlicks on the façade.

NOTICE

- Remember that an inlay profile connector will not fit in the position where a proficlick is located already if cover and inlay profiles are to be coupled.
- The horizontal distance Ⓗ between double proficlicks is indicated in the technical drawing. The precise distance is determined by the wind load calculation. Therefore, always observe the distance indicated in the technical drawing.
- Proficlicks are mounted on the top of the trapezoidal profile of the steel sheet piling.
  - Mount the double proficlicks alternately closer and further apart when the distance between the tops of the trapezoidal profile is smaller than the horizontal distance Ⓗ between the proficlicks in the technical drawing. Finish at the edge of the façade with the double proficlicks closer together.
  - Contact the supplier if the distance between the tops of the trapezoidal profile exceeds the horizontal distance Ⓗ between the proficlicks in the technical drawing.
- Inlay and cover profiles may protrude by up to 300 mm at the ends, measured from the proficlick centre.
- The minimum distance to the bottom of a steel sheet piling or sandwich wall plate is 0 mm or more, measured from the underside of the double proficlick. The bottom of the proficlick must not protrude beyond the lower edge of the sheet piling.



Installation with proficlicks (double mounting) - maximum and minimum distances to be observed

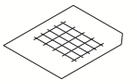
5.4.2 Sawing profiles to size

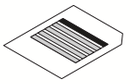
Required parts:


Cover profile (CP)


Inlay profile (IP)


Flat base profile *


Technical drawing


Sawing list

Required tools:


Measuring tape

* For mounting with base profiles and proficlicks – e.g., on brick/concrete façades, steel sheet piling or sandwich façade panels.

Use the sawing list and saw the profiles to size if this has not been done yet. The letters and digits from the sawing list correspond to the letters and digits on the technical drawing. The sawing list indicates the lengths of the respective profiles.

Example of a sawing list

	Type	Number	Length (mm)
a	ALX01573 - Aelex inlay profile 30 mm black L = 5.2 m	4	5200
b	ALX01573 - Aelex inlay profile 30 mm black L = 5.2 m	4	3135
c	ALX01572 - Aelex cover profile 30 mm black L = 5.2 m	1	5200
d	ALX01572 - Aelex cover profile 30 mm black L = 5.2 m	1	3135

5.5 Mounting the proficlicks

5.5.1 For mounting with basic profiles and proficlicks

NOTICE

- The method for anchoring the system to the façade, e.g., with chemical or regular anchors, should be chosen by the client or an external expert.
- Ensure that the system's anchor points on the façade can withstand a tensile force of at least 1 kN, unless otherwise specified.
- Base profiles should not protrude by any more than 300 mm at the ends, measured from the last anchor point.
- The horizontal distance between the base profiles is indicated in the technical drawing. The precise distance is determined by the wind load calculation. Therefore, always observe the distance indicated in the technical drawing.
- Inlay and cover profiles may protrude by up to 300 mm at the ends, measured from the proficlick centre.

Required parts:



Flat base profile



Proficlick



Anchoring for the flat base profiles on the façade *

* To be determined by the client or an external expert.

Required tools for mounting on sheet piles:



Screwdriver



Rivet pliers (for 6.3 × 23 mm rivets)



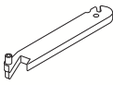
Measuring tape



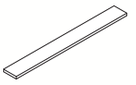
Hex key 3



Steel drill *



Aelex IP bender



Measuring stick (make your own) with length indication: PV panel height minus 68 mm



Line laser

* Size depends on selected anchor

Required tools for mounting on other façades:


Impact drill


Screwdriver

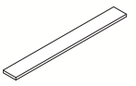

Stone drill *


Steel drill *


Bit Torx 40


Torque spanner


Measuring tape


Measuring stick (make your own) with length indication:
PV panel height minus 58 mm


Line laser

* Size depends on selected anchor.

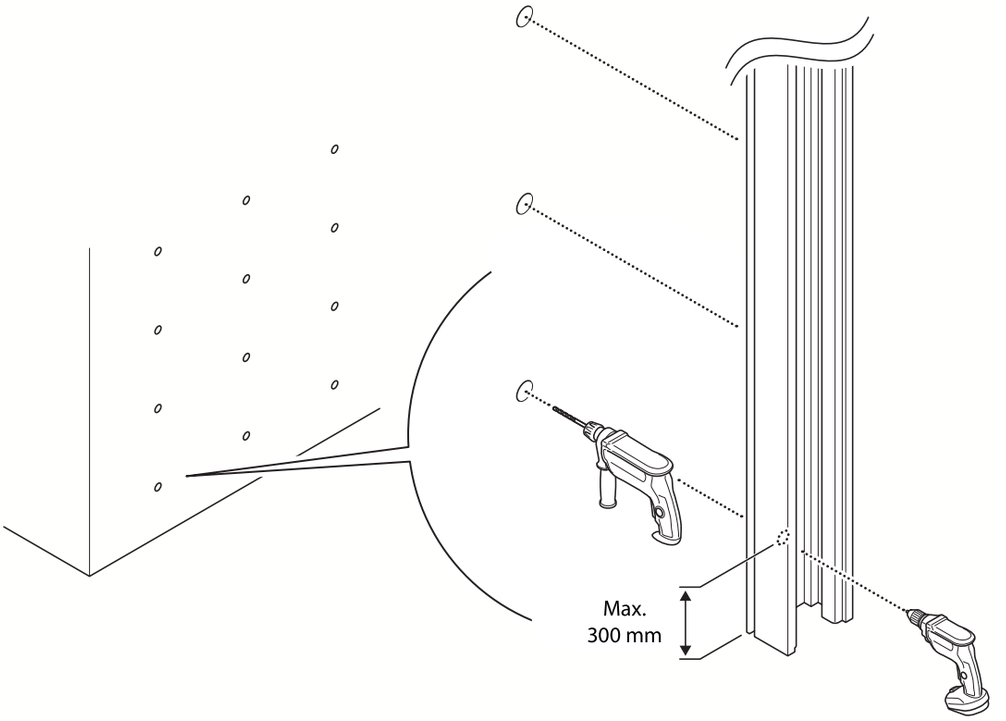
Mounting of flat base profile and proficlicks:

1. Drill the anchor holes in the façade.

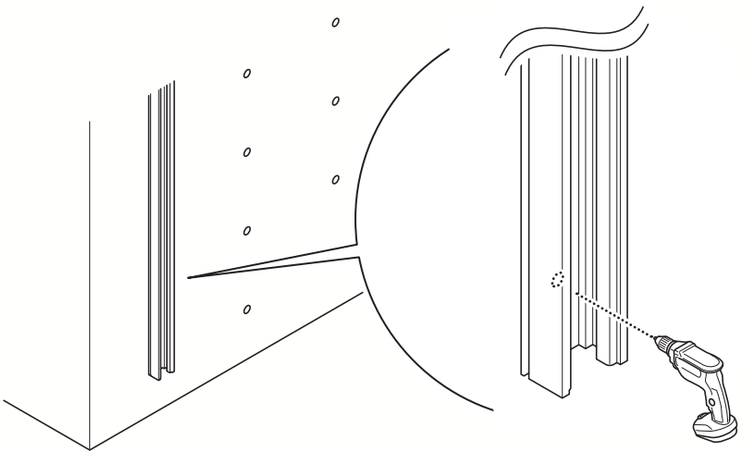
NOTICE
The maximum horizontal distance between the base profiles is indicated in the technical drawing.

2. Drill the fixing holes in the **base profiles**.

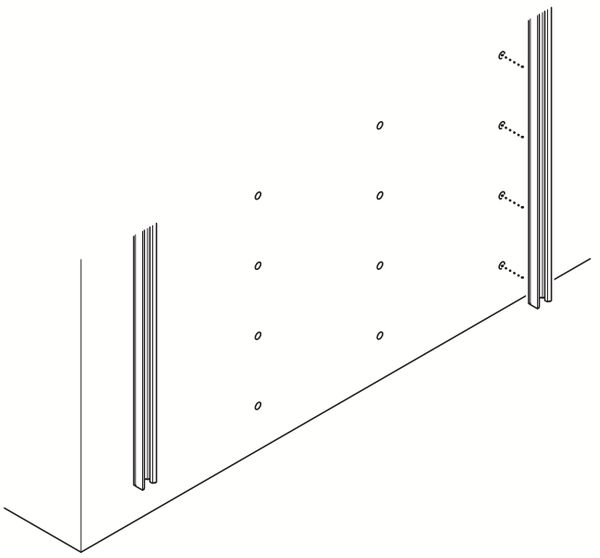
NOTICE
Base profiles should not protrude by any more than 300 mm at the ends, measured from the last anchor point.



3. Mount the first base **profile** *at the bottom left.*



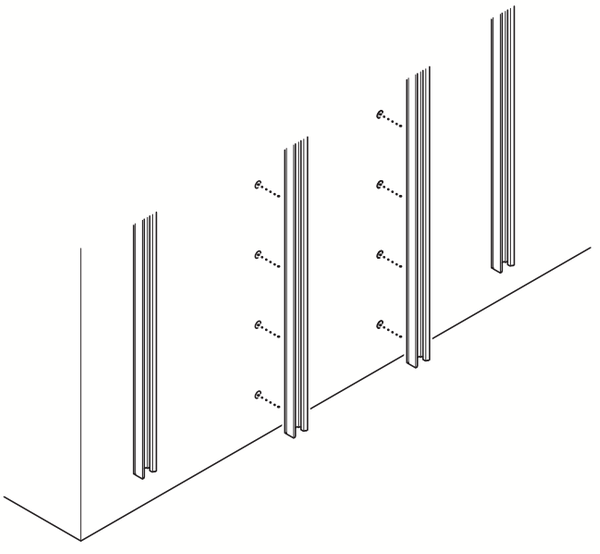
4. Mount the second **base profile** *on the bottom right*.



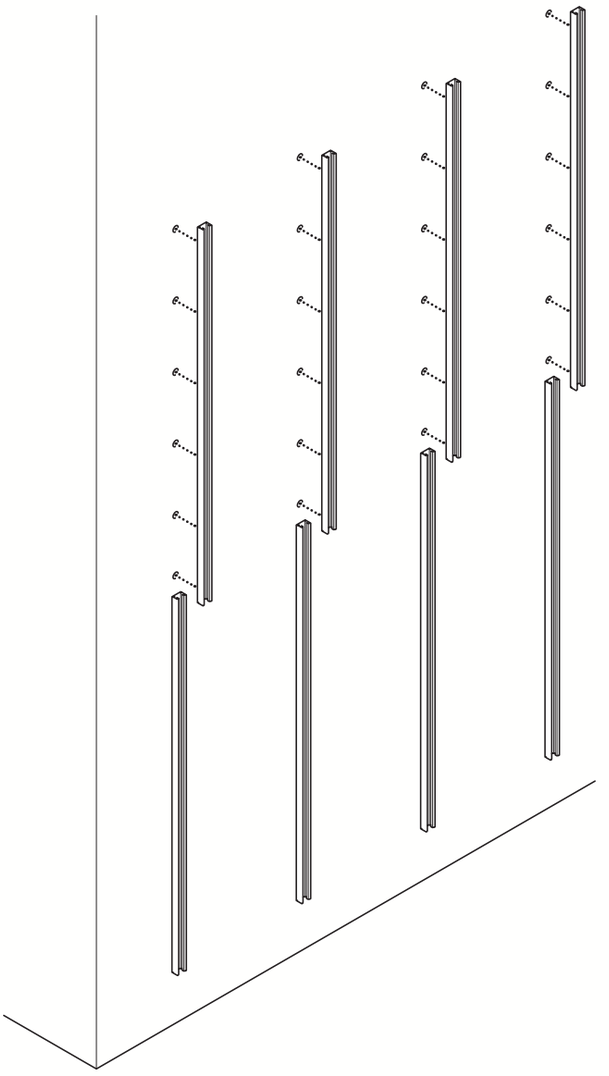
5. Mount the intermediate **base profiles**.

INFO

Align the proficlick heights using a line laser.

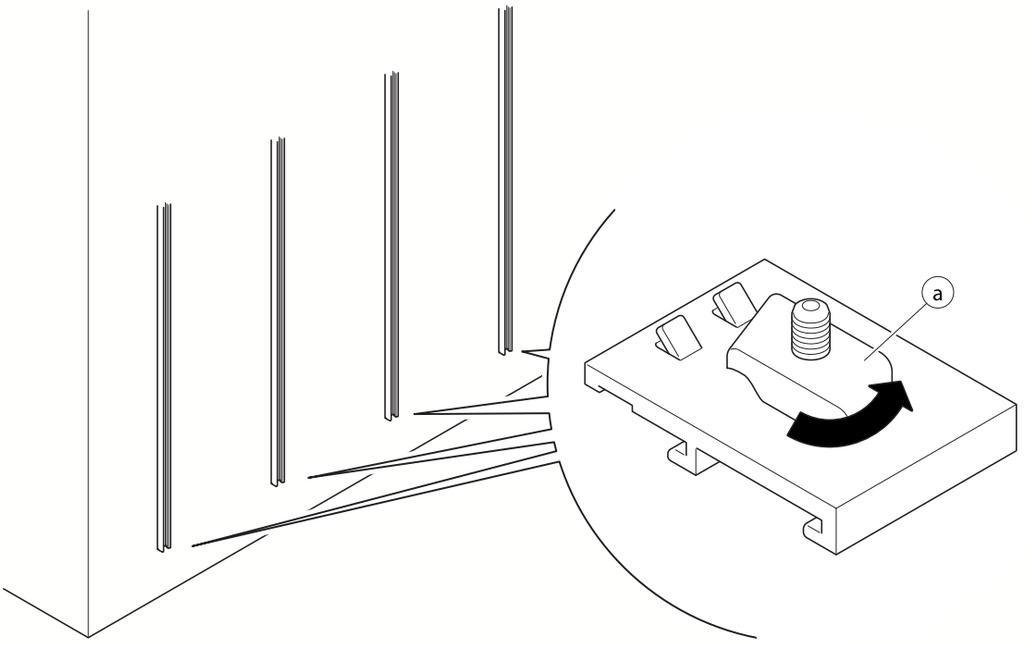


6. Mount the next rows of **base profiles** vertically above the bottom one.



7. Mount the bottom row of **proficlicks** on the **base profiles**.
   a. Turn the **toggle nut** ⓐ until it is positioned vertically. Place the **proficlick** on the **base profile**. Ensure that the bottom of the **proficlick** is flush with the **base profile** bottom.

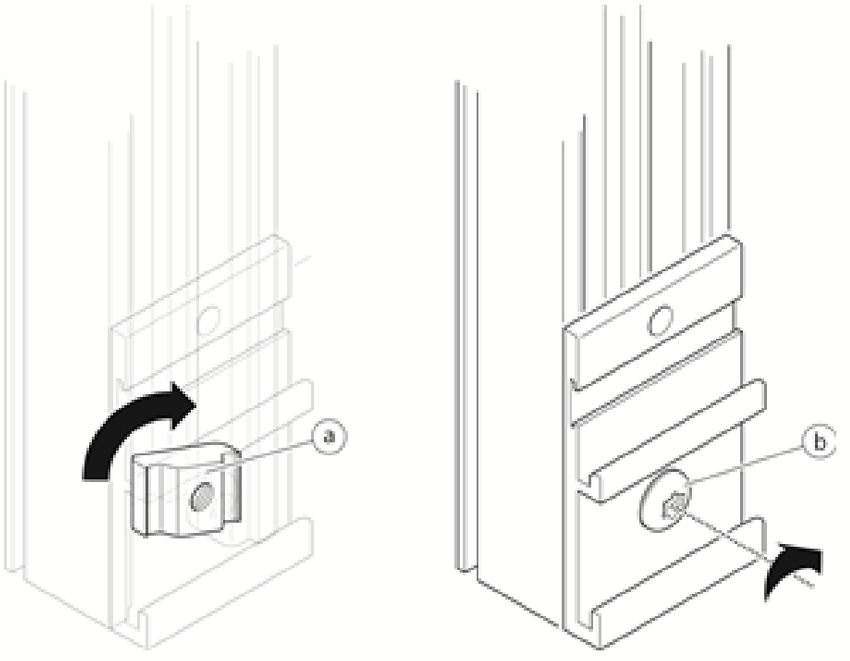
> **INFO**
> Align the proficlick heights using a line laser.



b. Turn the **toggle nut** ⓐ at the back of the **proficlick** by 90° and tighten the **screw** ⓑ to a torque of 25 Nm to fasten the **proficlick** to the **base profile**.

NOTICE

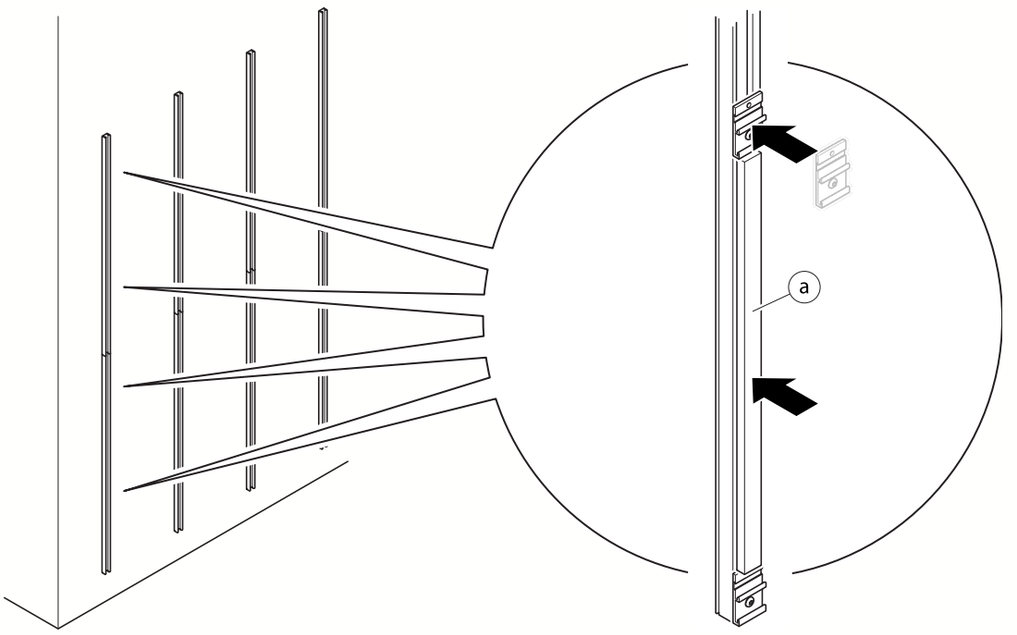
Ensure that the toggle nut clamps the profile.



8. Mount the remaining rows of **proficlicks**. The vertical distance between the proficlicks equals PV panel height minus 58 mm.

INFO

Prepare a measuring stick ⓐ to quickly measure the distance between the proficlicks. The length of the measuring stick equals the PV panel height minus 58 mm.

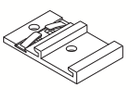


5.5.2 For mounting with double proficlicks

NOTICE

+ Proficlicks are mounted on the top of the trapezoidal profile of the sheet piling.
+ Use a measuring stick based on the PV panel height minus 68 mm.
+ The horizontal distance Ⓗ between proficlicks is indicated in the technical drawing. The precise distance is determined by the wind load calculation.
+ The bottom of the proficlick must not protrude beyond the lower edge of the sheet piling.

Required parts:



Double proficlick (two mounting points)



Rivet (6,3 × 23 mm)

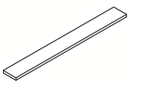
Required tools:


Screwdriver


Steel drill 6.5


Rivet pliers (for 6.3 × 23 mm rivets)


Measuring tape


Measuring stick (make your own) with length indication:
PV panel height minus 68 mm


Line laser

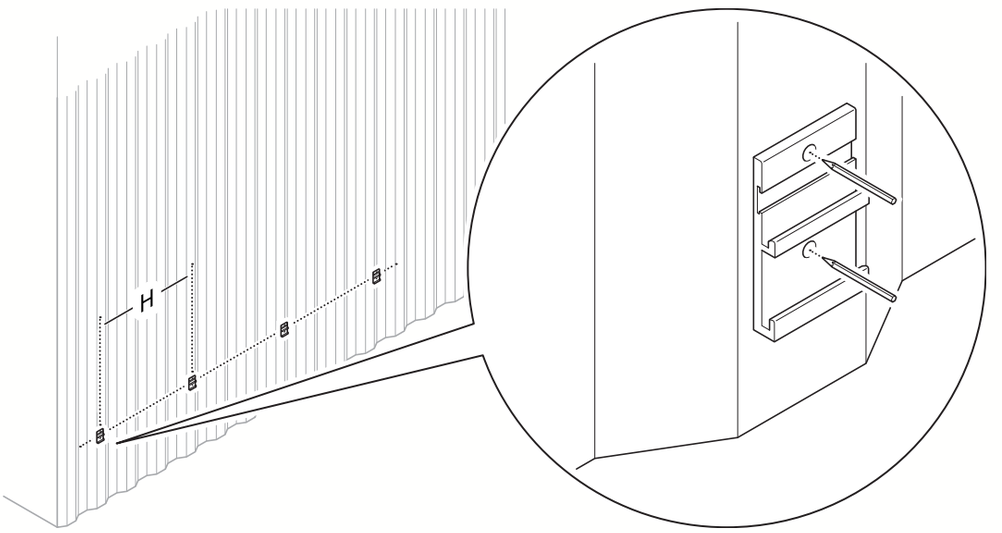
When mounting the double proficlicks:

1. Install the bottom row of **proficlicks**:
   a. Mark the positions of the holes for mounting the bottom row of **proficlicks** on the façade.

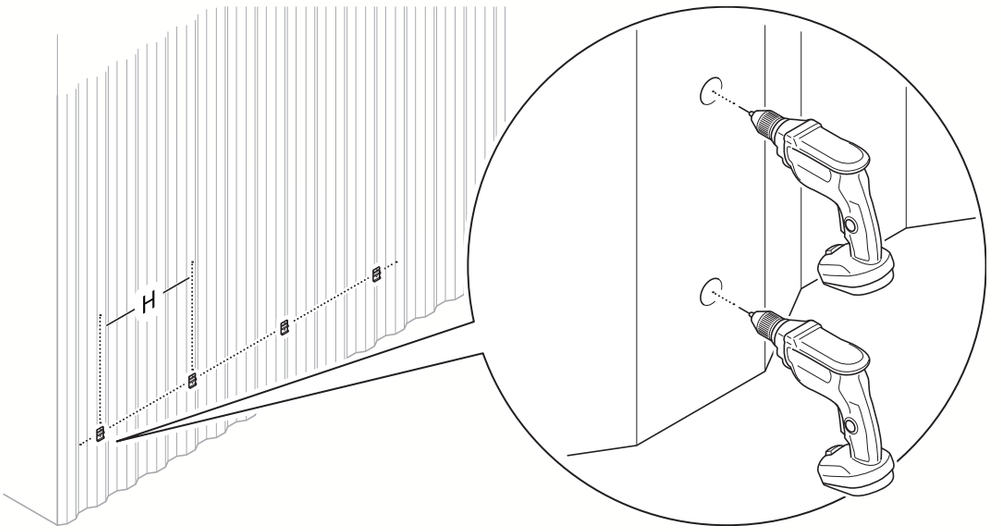
NOTICE

The bottom of the proficlick must not protrude beyond the lower edge of the sheet piling.

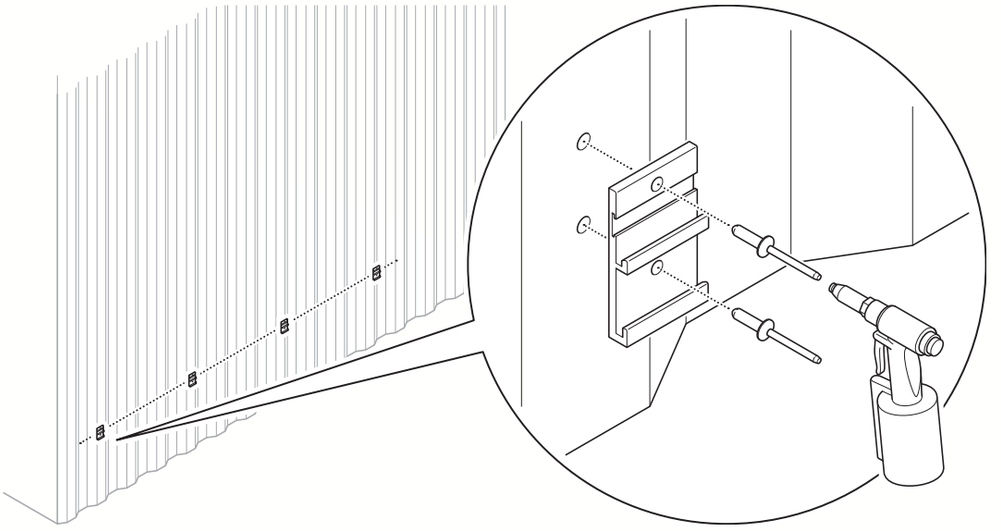
Align the hole height with the proficlick using a line laser.



b. Drill the holes for the bottom row of **proficlicks**.



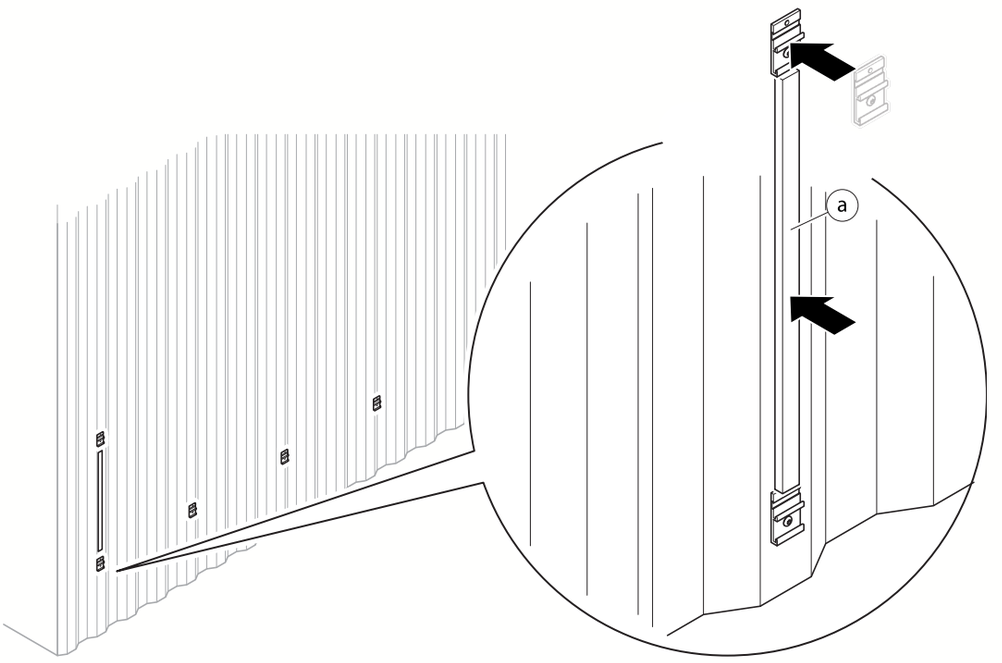
c. Mount the bottom row of **proficlicks** by securing both mounting holes with a **rivet**.



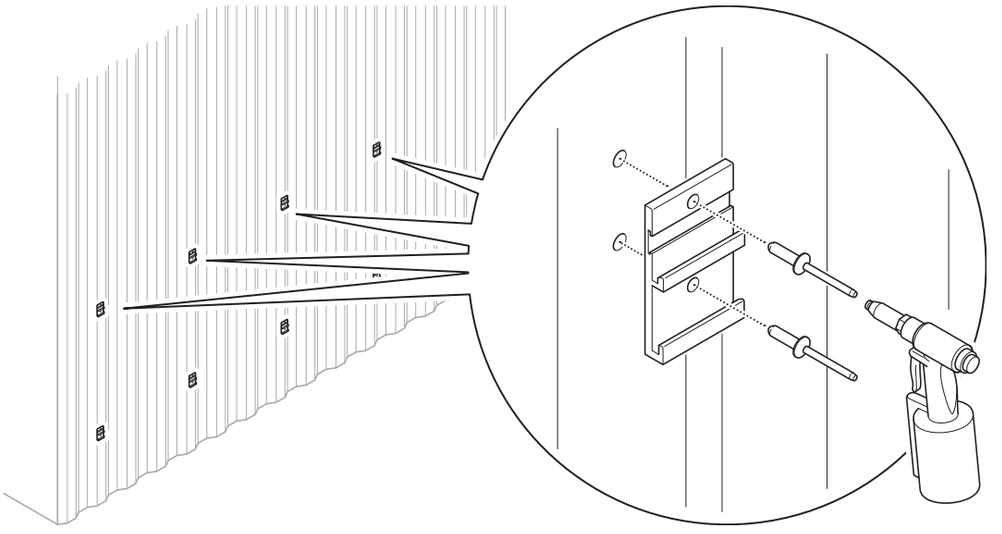
2. Mark the positions of the holes for the other rows of **proficlicks** on the façade. The vertical distance between the **proficlicks** equals PV panel height minus 68 mm.

INFO

Prepare a measuring stick ⓐ to quickly measure the distance between the proficlicks. The length of the measuring stick equals the PV panel height minus 68 mm.



3. Drill the holes for the other rows of **proficlicks**.
4. Fit the other rows of **proficlicks** by securing them with two **rivets**.



5.6 Connecting and mounting the cover and inlay profiles

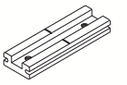
Required parts:


Cover profile (CP)


Inlay profile (IP)


Inlay profile end corner (IP end corner)

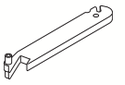

Inlay profile cover (IP cover)


Inlay profile connector

Required tools:


Hex key 3


Measuring tape


Aelex IP bender


Line laser

5.6.1 Connecting the cover and inlay profiles (if required)

NOTICE

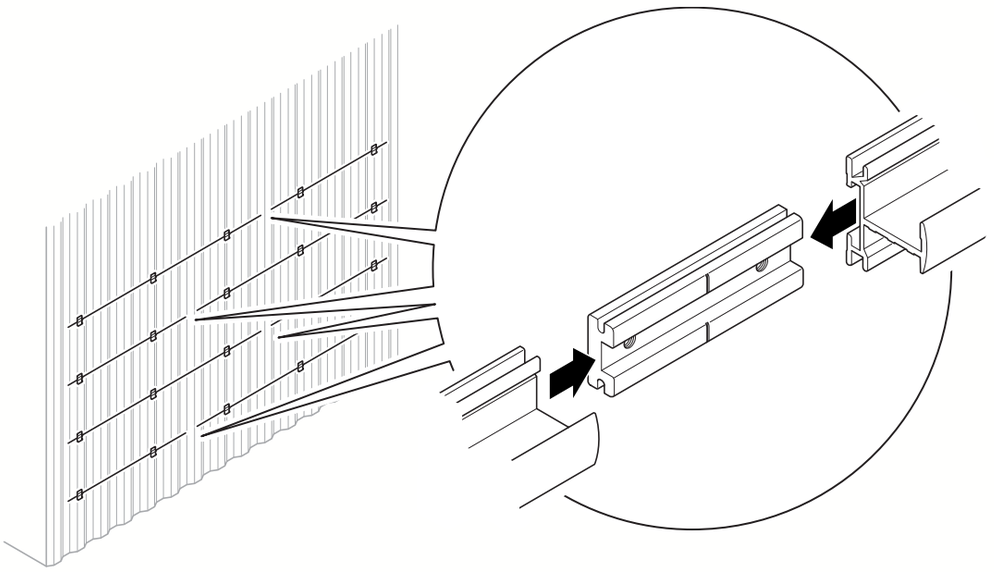
- Remember thermal expansion of the cover and inlay profiles connecting more than two cover profiles or more than two inlay profiles.
- Ensure that the inlay profile connector is evenly spread across the two profiles.
- Connect the cover/inlay profiles so that the connection between the profiles is placed alternately on the left and right sides of the system.
- Connect the cover and inlay profiles before mounting them. They cannot be connected once the profiles are in the proficlicks.
- Inlay profile connectors do not fit at the position where there is also a proficlick.

A certain distance must be maintained between the connected profiles to permit thermal expansion and contraction (dilatation) depending on the temperature of the cover/inlay profiles during installation.

The expansion table indicates the spacing required at different profile temperatures.

Expansion table

Distances between profiles, in case of a connected length of more than 12 metres (for cover profiles and inlay profiles)	
Profile processing temperature	Distance between two profiles (mm)
-10 °C	8
0°C	7
10°C	6
20°C	4
30°C	3
40°C	2
50°C	0

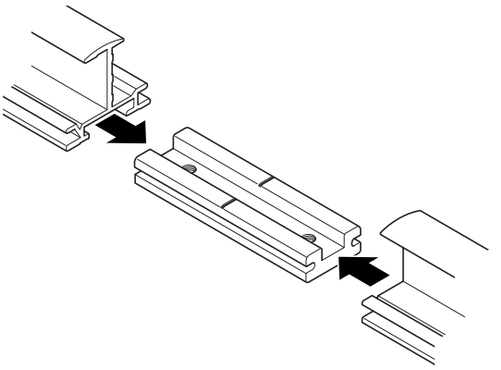


Example of staggered positions of the cover and inlay profile connectors

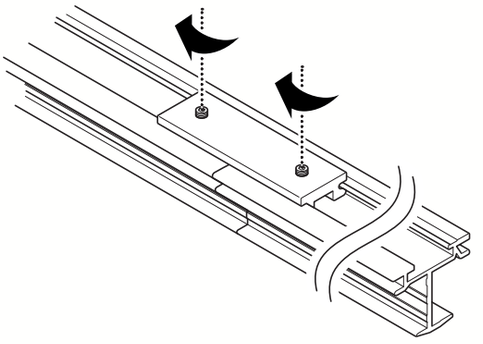
When connecting the cover/inlay profiles:

A. For lengths where two profiles must be connected:
   1. Connect the profiles with an **inlay profile connector** and push the profiles against each other.

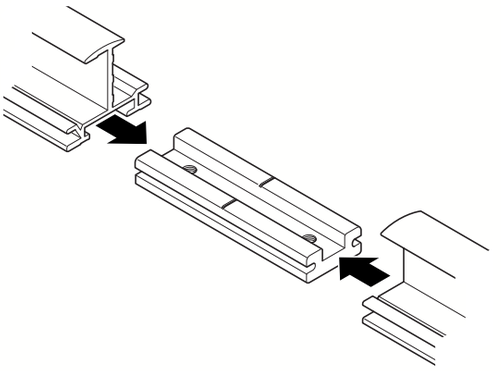
NOTICE
Ensure that the mark on the inlay profile connectors is always on the joint between the two profiles.



   2. Tighten both screws of the **inlay profile connector**.



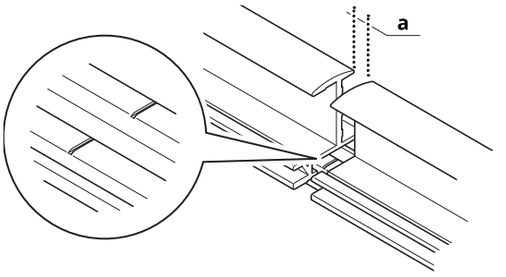
B. For lengths where three or more profiles must be connected:
   1. Check the profile temperature and check the expansion table for the distances to be maintained between the profiles.
   2. Connect the profiles with an **inlay profile connector.**



3. Adjust the **distance** ⓐ between the profiles as shown in the expansion table.

NOTICE

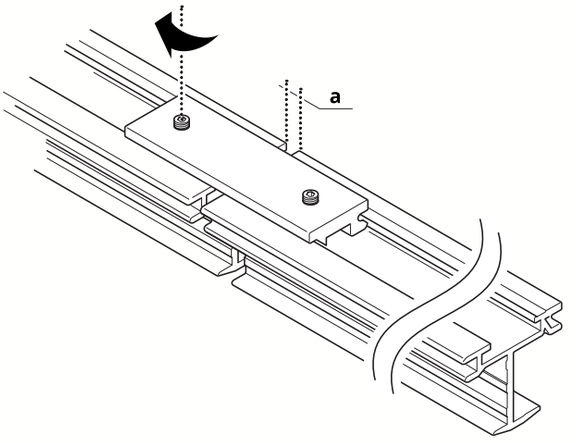
Ensure that the mark on the inlay profile is half-ways between the two profiles.



4. Tighten one screw of the **inlay profile connector**. Do not tighten the other screw.

NOTICE

Ensure that the inlay profile connector does not move while tightening the screw.



5.6.2 Mounting the cover and inlay profiles

NOTICE

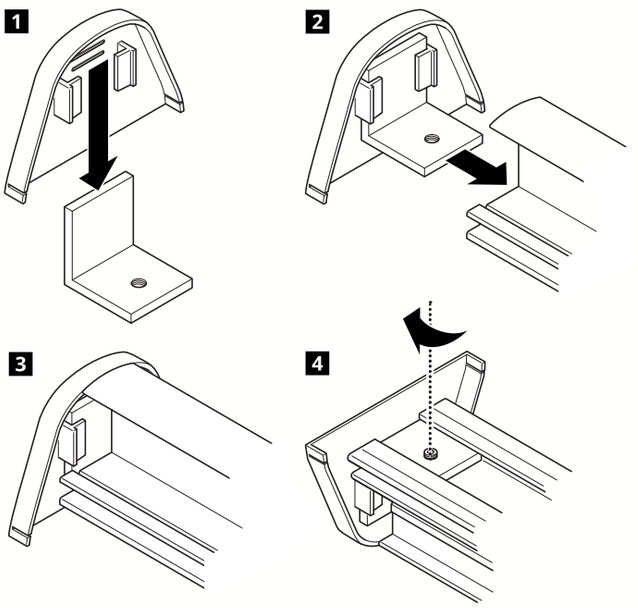
- Mount the cover and inlay profiles in accordance with the technical drawing:
  - Mount the cover profiles on the bottom row of proficlicks.
  - Mount the inlay profiles on the remaining rows of proficlicks.
- Cover and inlay profiles may protrude by up to 300 mm at the ends, measured from the proficlick centre.
- Mount the connected cover profiles and the connected inlay profiles so that the connection between the profiles is placed alternately on the left and right sides of the system.
- Ensure that the profiles are properly snapped into all proficlicks.

When mounting the cover/inlay profiles:

1. Push the **inlay profile cover** onto the **inlay profile end stop**.
2. Push the **inlay profile end stop** into the cover/inlay profile.
3. Ensure that the **inlay profile cover** abuts against the end of the cover/inlay profile but does not overlap.
4. Securely tighten the **screw** © of the **inlay profile end stops**.

NOTICE

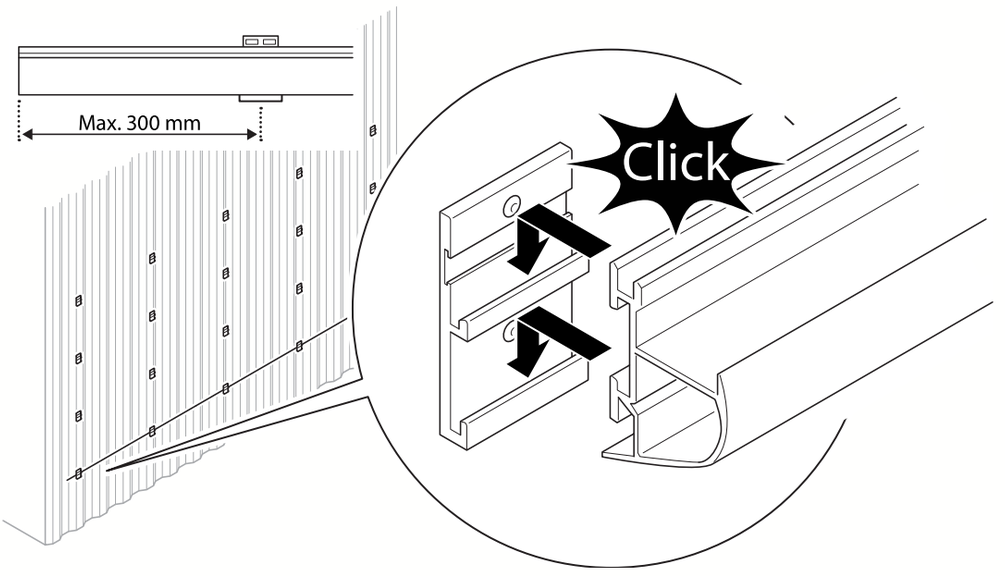
Ensure that the screw of the inlay profile end corner is tight. The inlay profile end stop prevents the PV panels from sliding out of the profiles due to expansion.



5. Push the (connected) **cover profile** into the bottom row of **proficlicks** from above.

NOTICE

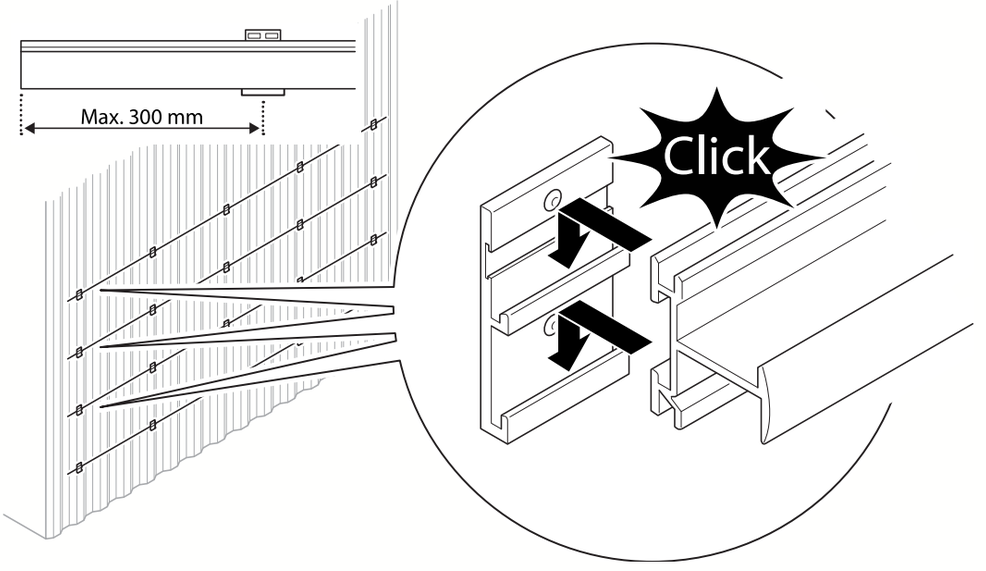
The closed side of the cover profile must be on the bottom.



6. Push the (connected) inlay profiles into the remaining rows of **proficlicks** from above, with the **long tab** ⓐ on the gutter side.

NOTICE

The inlay profiles are asymmetrical. Closely observe the position of the long tab ⓐ ; it will be impossible to place the PV panels otherwise. Align the sides of the inlay profiles using a line laser, a construction hook, or a PV panel.



5.6.3 Securing the cover and inlay profiles with the IP bender

NOTICE

Each cover and inlay profile must be secured with the IP bender to prevent the profiles from shifting due to thermal expansion and contraction.

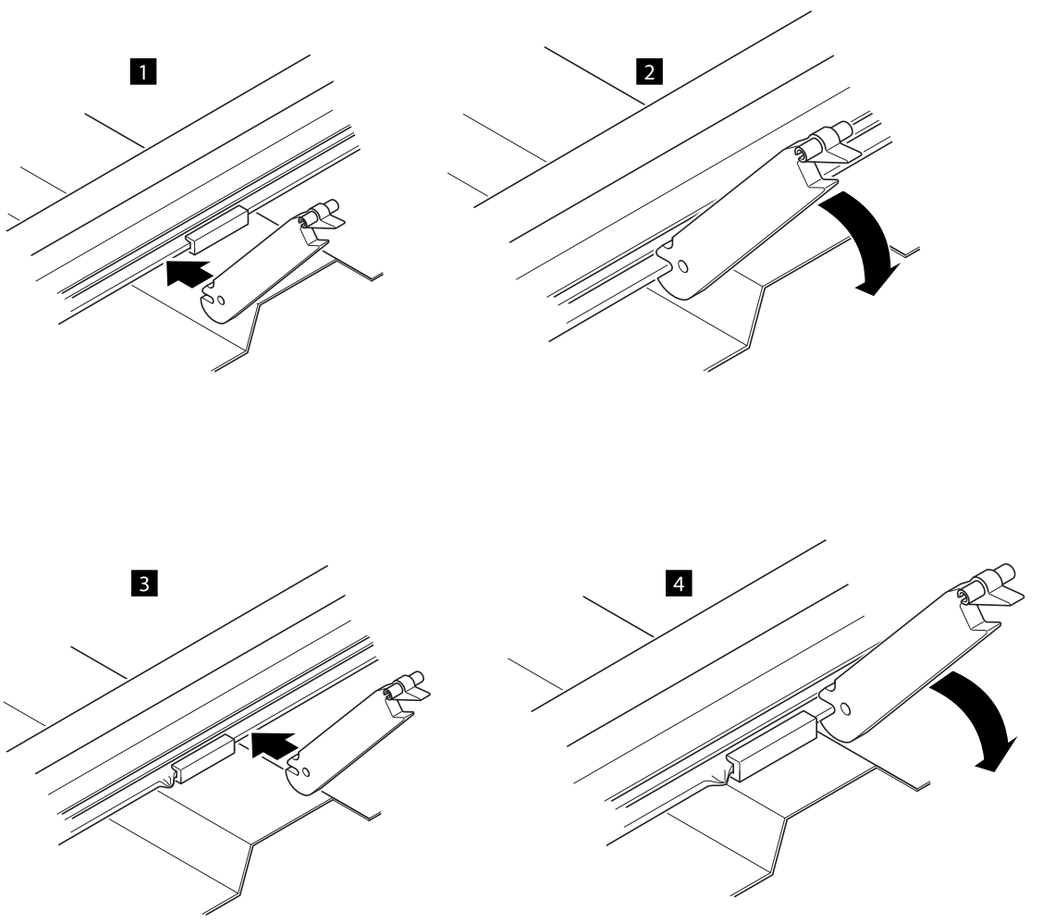
When securing the cover/inlay profiles with the IP bender:

1. Determine the **proficlick** at the centre of each **cover/inlay profile**.

   NOTICE

   Connected cover profiles and connected inlay profiles comprise two or more individual profiles. In this case, secure each individual profile with the IP bender.

2. Deform each **cover/inlay profile** with the **IP bender** at the bottom at the left and right of the middle **proficlick**.



5.7 Mounting Aelex damping strips

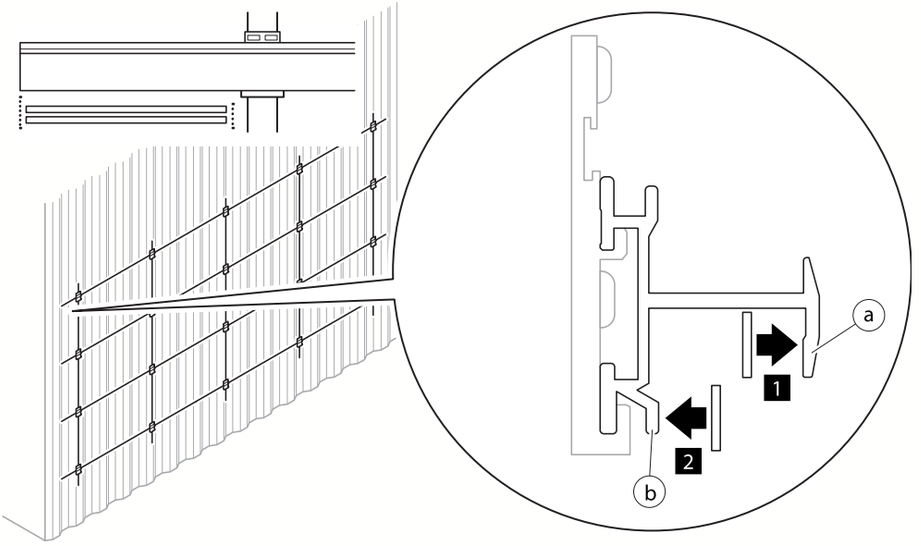
Required parts:



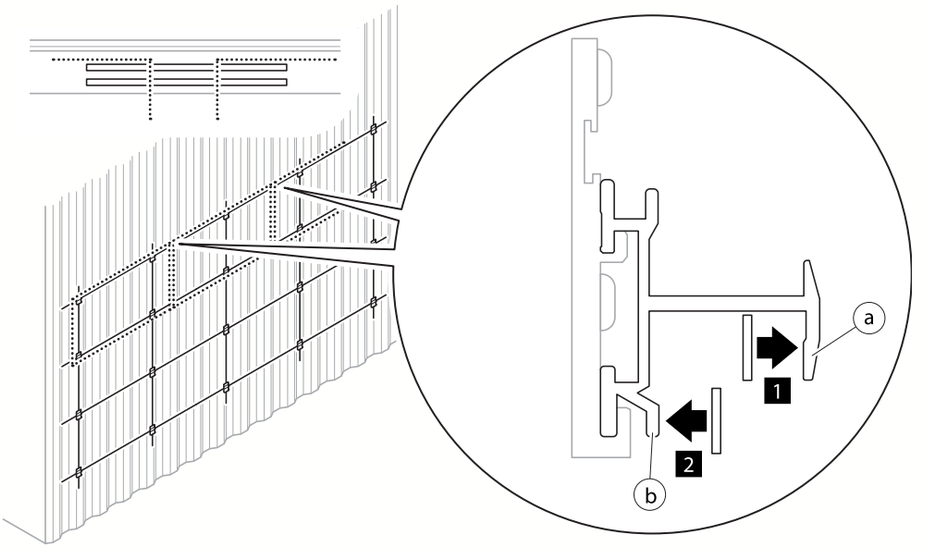
Aelex damping strip

Mounting Aelex damping strips:

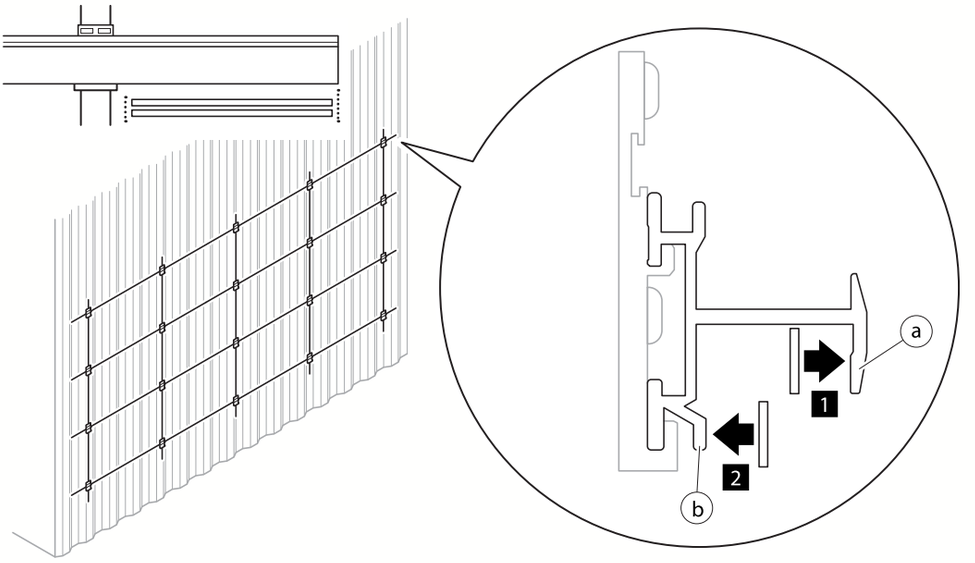
1. Stick the first two **Aelex damping strips** at the *start* of the first **inlay profile**. Remove the protective film and stick the **Aelex damping strips**:
   a. on the back of the **long lip** ⓐ .
   b. optionally, on the **elevation** ⓑ if the damping with the strip on the back of the long lip does not sufficiently protect against shaking/vibration.



2. Stick **Aelex damping strips** on *each separation* between two PV panels on the first **inlay profile**. Repeat this until every PV panel rests on half of the Aelex damping strips. Remove the protective film and stick the **Aelex damping strips**:
   a. on the back of the **long lip** ⓐ .
   b. optionally, on the **elevation** ⓑ if the damping with the strip on the back of the long lip does not sufficiently protect against shaking/vibration.



3. Stick **Aelex damping strips** at the *end* of the first **inlay profile**. Remove the protective film and stick the **Aelex damping strips**:
   a. on the back of the **long lip** ⓐ .
   b. optionally, on the **elevation** ⓑ if the damping with the strip on the back of the long lip does not sufficiently protect against shaking/vibration.



4. Put Aelex **damping strips** on the remaining **inlay profiles** according to steps 1 to 3.

5.8 Mount the securing cables (optional)

NOTICE

The shackle is size M8. Check that the mounting holes in the PV panel are large enough.

Required parts:



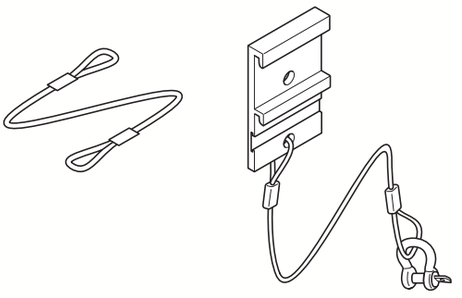
Securing cables

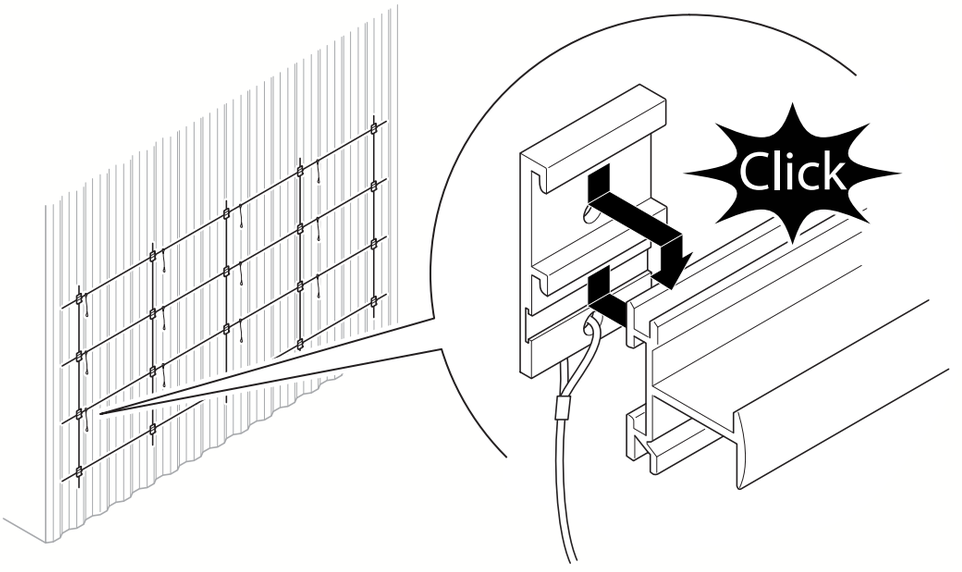
When mounting the securing cables:

1. Slide the **proficlick** down onto the back of the **inlay profile**.

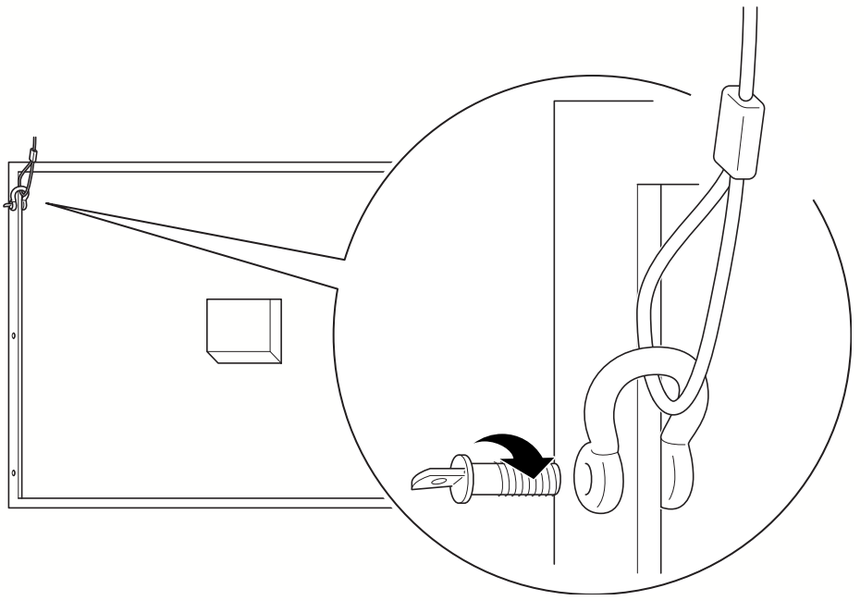
NOTICE

The securing cable points downwards.





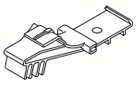
2. Attach the **shackle** to the **PV panel**.



3. Repeat steps 1 and 2 for each PV panel.

5.9 Mounting the optimizer clips

Required parts:



Optimizer clip

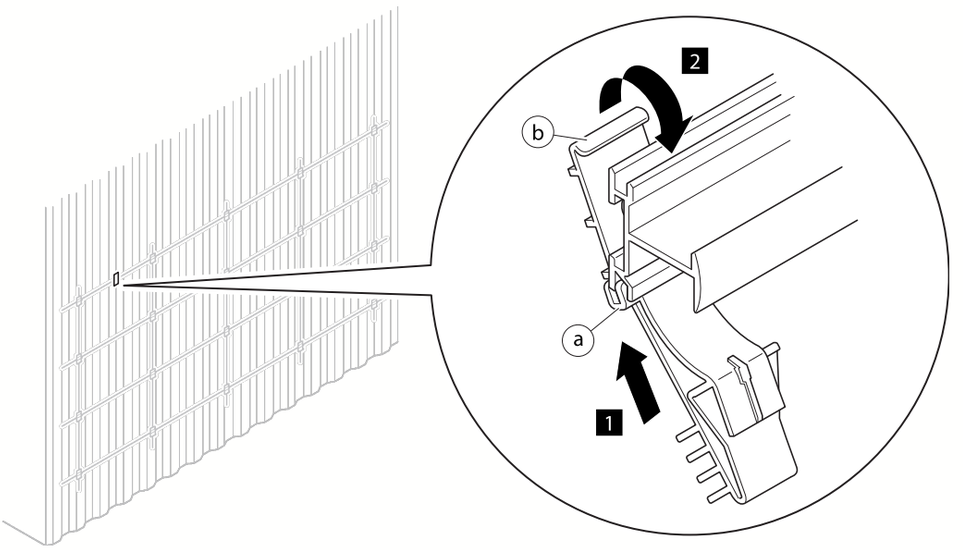
The optimizer clips are fitted to the bottom of the inlay profiles.

When mounting the optimizer clips:

1. Place the optimizer clip along the bottom of the **inlay profile** and place the **recess** ⓐ on the lower edge of the **inlay profile**.
2. Snap the **top** ⓑ of the **optimizer clip** onto the top edge of the **inlay profile**.
3. Mount the optimizer on the **optimizer clip**.

INFO

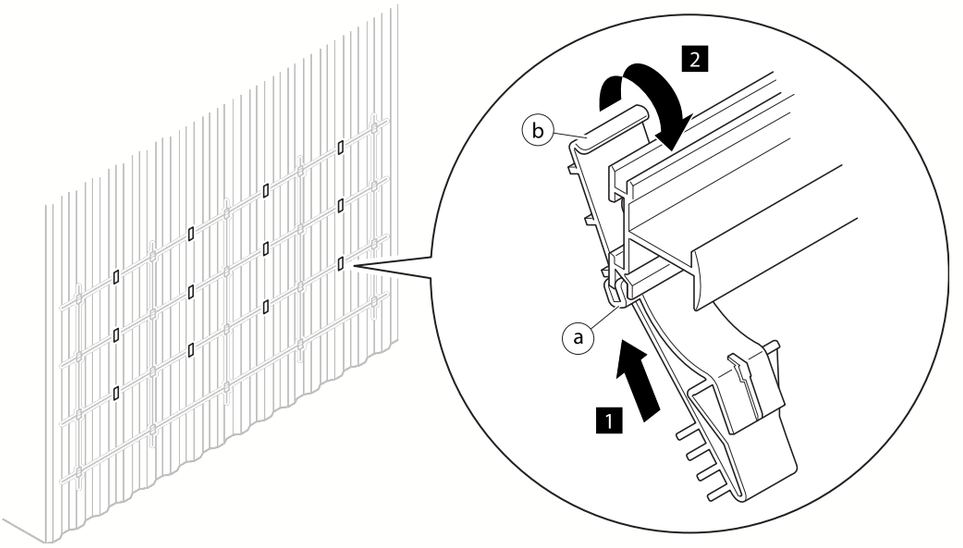
Use the cable clips at the bottom of the optimizer clip for proper cable management.



4. Mount the remaining **optimizer clips** and optimizers in accordance with steps 1 to 3.

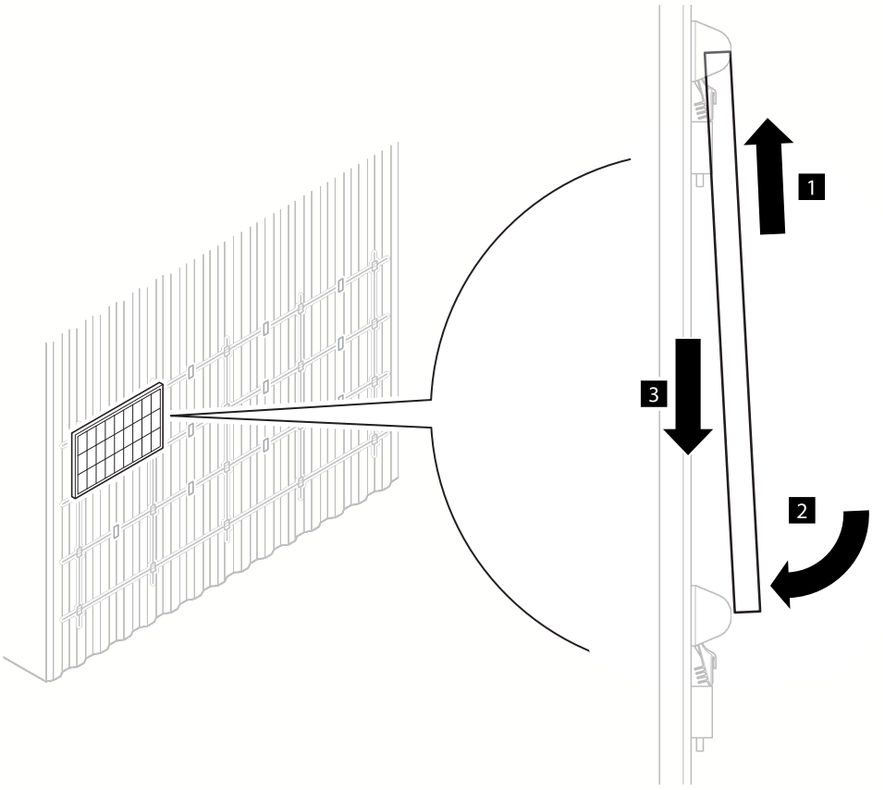
INFO

Place the string along with the optimizer string to avoid induction loops. The distances between optimizer clips are determined by the PV panels.

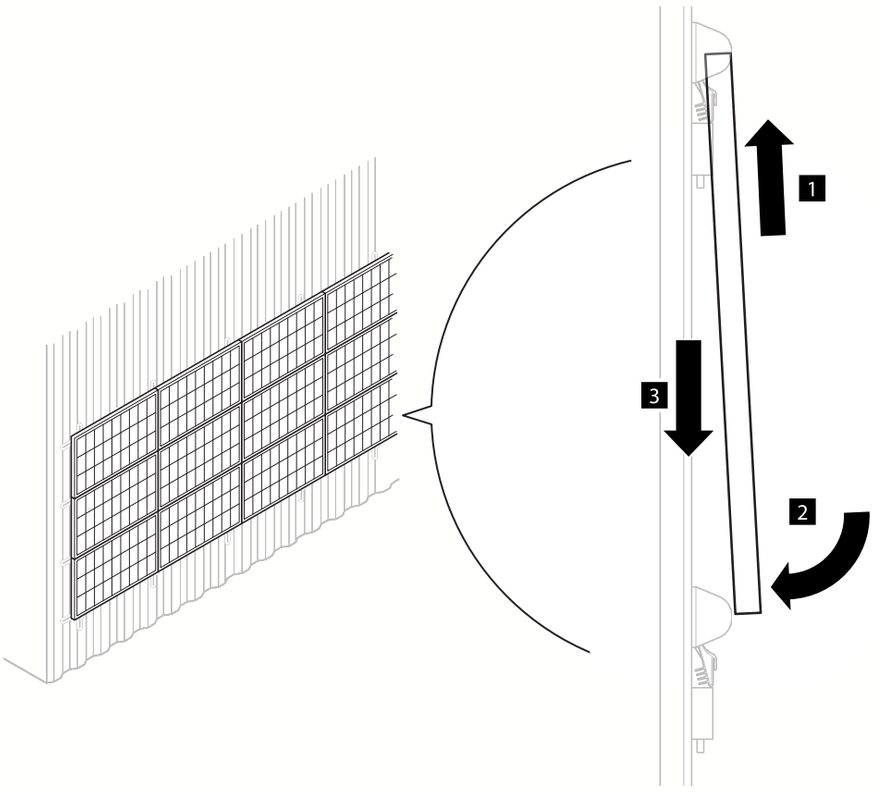


5.10 Placing the PV panels

1. Place the first PV panel at the top left:
   a. Insert the first PV panel into the recess in the top **inlay profile**.
   b. Push the PV panel all the way up and carefully lower it onto the lower inlay or cover profile.
   c. Slide the PV panel down until it is fully inserted into the recess of the **inlay** or **cover profile** at the bottom of the PV panel.



2. Place the remaining PV panels in accordance with step 1 and keep a clearance of 2 mm between them to allow for free expansion.


1
2
3

6 Maintenance and repair

⚠WARNING

Repair or maintenance of the Aelex inlay mounting system should only be performed by an authorised and competent installer who has read and understood the contents of this installation manual.

When servicing the Aelex inlay mounting system:

- The Aelex inlay mounting system is maintenance-free. Contact the supplier if there are any issues.
- During regular maintenance of the PV panels, ensure that:
  - any leaves and other wind-borne materials are removed;
  - any green deposits that may have formed are removed;
  - any empty bird nests are removed.

7 Troubleshooting

Problem	Cause	Remedy
Connecting the cover/inlay profiles is impossible/difficult.	Trying to connect from a cover or inlay profile already attached in a roof hook clip or proficlick.	Connect the cover/inlay profiles before installing them in the roof hook clips or proficlicks.
Inlay and cover profiles shift over time.	The spacing of the connected profiles does not match the spacing specified in *5.9.1 Connecting the cover and inlay profiles (if required).*	Check that the connected profiles are correctly installed (see *5.9 Connecting and mounting cover and inlay profiles*).
	Connected profiles are not secured with the IP bender as shown in *5.9.3 Securing the cover and inlay profiles with the IP bender.*	Check that the connected profiles are correctly installed (see *5.9 Connecting and mounting cover and inlay profiles*).

8 Removal

8.1 Removal of the product

⚠WARNING

The Aelex inlay mounting system should only be removed by authorised and competent installers who have read and understood the content of this installation manual.

When removing the product:

Dismount the product in the reverse order of installation. Check whether any reusable parts, such as metals and plastics, can be reused or recycled and dispose of them at a local collection point.

8.2 Waste disposal

Deliver the packaging material to a local recycling company. Properly disposing of packaging and packaging waste helps in preventing potential danger to the environment and public health.

Aelex